

EV-S9000E AE/B/NP/UB/VC

RMT-138B

SERVICE MANUAL

UK(UB) Model
German(VC) Model
Italian(AE) Model
North European(NP) Model
French(B) Model

Remote commander
is available as a
unit. See page 5-1
for repair parts.



video Hi8
F MECHANISM

For MECHANICAL ADJUSTMENT, refer to the "8mm
Video MECHANICAL ADJUSTMENT MANUAL V
(F MECHANISM)" (9-973-445-11).

System

Video recording system

Rotary two-head helical scanning FM
system

Audio recording system

Standard: Rotary head FM system (2
channels)
PCM: PCM system (2 channels)

Video signal

EV-S9000E AE/NP/VC:
CCIR standard, PAL colour
System B/G
EV-S9000E B:
CCIR standard, PAL/SECAM colour
System L and B/G
EV-S9000E UB:
CCIR standard, PAL colour
System I

Usable cassettes

8 mm video format cassettes

Tape speed

SP: 20.051 mm/sec.
LP: 10.058 mm/sec.

SPECIFICATIONS

Recording/playback time

SP: 2 hrs., LP: 4 hrs. (using a Sony E5-
120 cassette)
SP: 1.5 hrs., LP: 3 hrs. (using a Sony
E5/P5-90 cassette)

Fast-forward/rewind time

2 min. 15 sec.
1 min. (high-speed rewind)
(using a Sony E5/P5-90 cassette)

Channel coverage

EV-S9000E AE/NP/VC and B (system
B/G):
VHF E2 - E12 (A - H Italian model
only)
CATV S01 - S03, S1 - S20
HYPER S21 - S41
UHF E21 - E69
EV-S9000E B (system L):
UHF F2 - F10
CATV B - Q
HYPER S21 - S41
UHF F21 - F69
EV-S9000E UB:
UHF B21 - B61

RF output signal

EV-S9000E AE/NP/VC/B:
UHF channels E30 - E39 (variable)
EV-S9000E UB:
UHF channels B30 - B39 (variable)

Stereo/bilingual system

EV-S9000E AE/NP/VC:
German two carrier system
EV-S9000E NP:
B/G NICAM
EV-S9000E UB:
I NICAM

—continued on next page—



Hi8 VIDEO CASSETTE RECORDER
SONY

Inputs and outputs

Antenna

75-ohm asymmetrical aerial socket

EURO-AV: LINE 1

21-pin
Video input: pin 20
Audio input: pins 2 and 6
Video/luminance output: pin 19
Chrominance output: pin 15
Audio output: pins 1 and 3

CANAL PLUS (EV-S9000E B/N/P)

21-pin

PAY-TV (EV-S9000E VC)

Video input: pin 20
Audio input: pins 2 and 6
Video output: pin 19
Audio output: pins 1 and 3

LINE IN 2 and 3

S VIDEO IN (4-pin mini DIN) 1 each
Y: 1 Vp-p 75 ohms (unbalanced), sync negative
C: 0.3 Vp-p (colour burst) 75 ohms (unbalanced)
VIDEO IN (phono jack) 1 each
Input signal: 1 Vp-p, 75 ohms (unbalanced), sync negative
AUDIO IN (phono jack) 2 each
Input level: -7.5 dBs (0 dBs = 0.775 Vrms)
Input impedance: more than 47 kilohms

LINE OUT

S VIDEO OUT (4-pin mini DIN)
Y: 1 Vp-p 75 ohms (unbalanced), sync negative
C: 0.3 Vp-p (colour burst) 75 ohms (unbalanced)
VIDEO OUT (phono jack)
Output signal: 1 Vp-p, 75 ohms, (unbalanced), sync negative
AUDIO OUT (phono jack)
Standard output: -7.5 dBs at load impedance 47 kilohms
Output impedance: less than 10 kilohms

Microphone input

Minijack -60 dBs, for low impedance microphone

Headphone jack

Stereo minijack -26 dBs, 8 ohms

CONTROL S IN

Minijack

LANC ②

Stereo mini-minijack

General

Power requirements

220 - 240 V AC, 50 Hz

Power consumption

38 W

Operating temperature

5°C to 40°C

Storage temperature

-20°C to 60°C

Dimensions

Approx. 466 x 119 x 366 mm (w/h/d) including projecting parts and controls

Weight

Approx. 8.5 kg

Supplied accessories

Remote commander (1)
R6 (size AA) batteries (2)
Aerial cable (1)
Audio cable (1)
Mains lead (1)
RF screwdriver (1)
S-video cable (1)
LANC cable (1)



Design and specifications are subject to change without notice.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

1. Check the area of your repair for unsoldered or poorly soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
4. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
5. Check the line cord for cracks and abrasion. Recommend the replacement of any such line cord to the customer.
6. Flexible Circuit Board Repairing
 - Keep the temperature of the soldering iron around 270°C during repairing.
 - Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
 - Be careful not to apply force on the conductor when soldering or unsoldering.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK  OR DOTTED LINE WITH MARK  ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ


LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE  SUR LES DIAGRAMMES SCHEMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

TABLE OF CONTENTS

<u>Section</u>	<u>Title</u>	<u>Page</u>	<u>Section</u>	<u>Title</u>	<u>Page</u>
SERVICE NOTE					
1.	DESTINATION DIFFERENCE SCHEMATIC COMPONENT TABLE LIST	5	2-10.	Removal of Mechanical Block and Cassette Compartment	2-5
2.	Removal of Cassette at Failure with Cassette Inserted	5	2-11.	Tray Chassis Internal Views	2-6
3.	Replacement of External Parts	6	2-12.	Mechanical Internal Views	2-6
4.	Replacement of Cassette Door Assembly	6	2-13.	Circuit Boards Location	2-7
5.	Cleaning of Video Head and Run System	7			
6.	Replacement of Upper Rotary Drum	7			
1. GENERAL			3. DIAGRAMS		
	• Index to Parts and Controls	1-1	3-1.	Overall Block Diagram	3-1
	• Welcome!	1-5	3-2.	Head Amp Block Diagram	3-5
	• Checking your Model Name	1-5	3-3.	Video I/O Block Diagram	3-6
	• Hi[8] (high eight) Video System	1-5	3-4.	Video Block Diagram	3-9
	• STEP 1-Unpacking	1-6	3-5.	Digital Block Diagram	3-14
	• STEP 2-Setting up the Remote Commander	1-6	3-6.	Trancecoder Block Diagram	3-17
	• STEP 3-Connecting the VCR	1-7	3-7.	Servo, System Control Block Diagram	3-20
	• STEP 4-Tuning the TV to your VCR	1-8	3-8.	Timer, Tuner, MODE Control Block Diagram	3-23
	• STEP 5-Tuning the VCR to TV Channels (EV-S9000E AE/UB only)	1-9	3-9.	AFM Audio Block Diagram	3-27
	• STEP 5-Tuning the VCR to TV Channels (EV-S9000E NP/VC only)	1-10	3-10.	PCM Audio Block Diagram	3-31
	• STEP 5-Tuning the VCR to TV Channels (EV-S9000E B only)	1-11	3-11.	Tuner Block Diagram	3-33
	• STEP 6-Setting the clock	1-12	3-12.	Power Block Diagram	3-36
	• Setting the Canal Plus/PAY-TV Decoder (EV-S9000E B/NP/VC only)	1-13			
	• Additional Tuning Instructions	1-14	4. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS		
	• Playing a Tape	1-14	4-1.	Frame Schematic Diagram	4-1
	• Recording TV Programmes	1-16	4-2.	Printed wiring Boards and Schematic Diagrams	4-5
	• Recording TV Programmes Using the Timer	1-19		• This Note is Common for Printed Wiring Boards and Schematic Diagrams	4-5
	• Checking/Cancelling Timer Settings	1-21		• RP-165 Board	4-6
	• Playing Searching at Various Speeds	1-22		• VI-121 Board	4-14
	• Adjusting the Picture	1-23		• DI-51 and WC-10 Boards	4-24
	• Searching Using the Index			• MA-173 Board	4-33
	Function-Index Search	1-25		• TC-30 Board	4-57
	• Looking at Menu Options	1-27		• PC-61 Board	4-63
	• Shuttle Editing	1-28		• FM-16, TK-26, SW-227 and TM-119 Boards	4-69
	• Editing with Another VCR	1-29		• Control Switch Block and MD-59 Boards	4-78
	• Synchronised Editing	1-30		• CS-45 Board	4-86
	• Assemble Editing	1-32		• FR-82 and FL-57 Boards	4-92
	• Using the Edit Monitor Function	1-34		• FJ-13 Board	4-99
	• Audio Dubbing	1-34		• VP-38 Board	4-103
				• TU-145 Board	4-106
				• PS-316 Board	4-111
			4-3.	Semiconductors	4-116
2. DISASSEMBLY			5. REPAIR PARTS LIST		
2-1.	Removal of Cabinet Assembly	2-1	5-1.	EXPLODED VIEWS	5-1
2-2.	Removal of FL-57 Board and FR-82 board	2-1	5-1-1.	Cabinet and Front Panel Assemblies	5-1
2-3.	Removal of FJ-13 Board and Bottom Plate	2-2	5-1-2.	Tray Chassis Complete Assembly	5-3
2-4.	Removal of FM-16 Board and Control Switch Block	2-2	5-1-3.	Main Boards Assembly	5-4
2-5.	Removal of TC-30 Board	2-3	5-1-4.	Cassette Compartment Assembly	5-6
2-6.	Removal of TU-145 Board and DI-51 Board	2-3	5-1-5.	Mechanical Assembly (1)	5-7
2-7.	Removal of PS-316 Board and CS-45 Board	2-4	5-1-6.	Mechanical Assembly (2)	5-8
2-8.	Removal of PC-61 Board	2-4	5-1-7.	Mechanical Assembly (3)	5-9
2-9.	Removal of VI-121 Board and MA-173 Board	2-5	5-2.	ELECTRICAL PARTS LIST	5-10
			5-2-1.	Hardware List	5-67
			6. INTERFACE AND IC PIN FUNCTION		
			6-1.	System Control—Video—Audio Block Interface	6-1
			6-2.	Mechanical Control—Servo Block Interface	6-2

<u>Section</u>	<u>Title</u>	<u>Page</u>
6-3.	Mechanical Control Micro Computer CXP87140 (MA-173 Board IC003) Port Function Description	6-3
6-4.	Mode Control Microcomputer MB89096 (MA-173 Board IC002) Port Function Description	6-5
6-5.	Timer/Tuner Control Microcomputer MB89096 (FM-16 Board IC101) Port Function Description	6-6
6-6.	PCM/AFM Audio Output Control	6-7

7. ADJUSTMENTS

SERVICE MODE	7-1
1. Senser Lanc	7-1
2. How to Use the RM-95 JIG	7-1
3. How to Change the Service Mode with RM-95	7-1
4. Senser Lanc Memory Map	7-2
5. Eeprom Write Protect	7-2
6. Test Mode Setting	7-3
7. Emergency Codes	7-3
8. D Page Memory Map	7-4
7-1. MECHANICAL ADJUSTMENTS	7-6
1-1. Tape Pass Adjustment	7-6
1-1-1. Setting the Track Shift Mode	7-6
1-1-2. Preparation before Adjustment	7-6
7-2. ELECTRICAL ADJUSTMENTS	7-7
2-1. Preparation before Adjustment	7-7
2-1-1. Equipment Required	7-7
2-1-2. Equipment Connection	7-8
2-1-3. Input Signal Check	7-9
2-1-4. Alignment Tapes	7-10
2-1-5. Input/Output Levels and Impedance	7-11
2-2. Power Supply Check	7-12
2-2-1. Output Voltage Check	7-12
2-3. System Control System Adjustments	7-12
2-3-1. Timer Clock Adjustment	7-12
2-4. Servo System Adjustments	7-13
2-4-1. PWM Frequency Adjustment	7-13
2-4-2. Switching Position Adjustment	7-13
2-4-3. CAP Duty Adjustment	7-14
2-4-4. SP/LP Discrimination Check	7-14
2-4-5. Slow Adjustment	7-15
2-5. Video System Adjustments	7-16
2-5-1. Playback Frequency Characteristic	7-16
2-5-2. Sync AGC Adjustment	7-17
2-5-3. Accel Y Level Adjustment	7-17
2-5-4. Accel C Level Adjustment	7-17
2-5-5. Chroma Comb Filter Adjustment	7-18
2-5-6. Pre-emphasis Input Level Adjustment	7-18
2-5-7. L Mode Y FM Carrier Frequency, Y FM Deviation Adjustment	7-18
2-5-8. E Mode Y FM Carrier Frequency, Y FM Deviation Adjustment	7-19
2-5-9. Chroma Emphasis Adjustment	7-20
2-5-10. L Mode De-emphasis Level Adjustment	7-20
2-5-11. L Mode Playback Level Adjustment	7-21
2-5-12. E Mode De-emphasis Level Adjustment	7-21
2-5-13. E Mode Playback Level Adjustment	7-21
2-5-14. Recording Chroma Level Pre Adjustment	7-21

2-5-15. Recording Y Level Adjustment	7-22
2-5-16. L Mode Recording Chroma Level Adjustment	7-22
2-5-17. E Mode Recording Chroma Level Adjustment	7-22
2-5-18. Y/Chroma Adjustment	7-23
2-5-19. Carrier Leak Adjustment	7-23
2-6. SECAM-PAL Conversion System Adjustments	7-24
2-6-1. Equipment Required	7-24
2-6-2. Setting up During Adjustment	7-24
2-6-3. Bell Filter Adjustment	7-24
2-6-4. VCO Adjustment	7-25
2-6-5. I REF Adjustment	7-25
2-6-6. B-Y fo Adjustment	7-25
2-6-7. R-Y fo Adjustment	7-25
2-6-8. Color Level Adjustment	7-26
2-7. Digital System Adjustments	7-26
2-7-1. AFC Adjustment	7-26
2-7-2. APC Adjustment	7-27
2-7-3. Read Clock (YRCK) Adjustment	7-28
2-7-4. Read Clock (CRCK) Adjustment	7-28
2-7-5. Y Output Level Adjustment	7-28
2-8. Character Generator System Check	7-29
2-8-1. CG OSC Check	7-29
2-9. PCM Audio System Adjustments	7-30
2-9-1. Master Clock Adjustment	7-30
2-9-2. Recording Level Adjustment	7-30
2-9-3. Offset Adjustment	7-31
2-9-4. Playback VCO Check	7-31
2-9-5. Playback Level Adjustment	7-32
2-9-6. E-E Output Level Check	7-32
2-9-7. Overall Frequency Characteristic Adjustment	7-32
2-9-8. Overall Distortion Factor Check	7-32
2-9-9. Overall Noise Level Check	7-33
2-10. AFM Audio System Adjustments	7-33
2-10-1. Carrier Frequency 1.5MHz	7-34
2-10-2. Carrier Frequency 1.7MHz	7-34
2-10-3. 1.5MHz Deviation Adjustment	7-34
2-10-4. 1.7MHz Deviation Adjustment	7-34
2-10-5. Playback Separation 2 Check	7-34
2-10-6. Playback Separation 1 Check	7-35
2-10-7. E-E Output Level Check	7-35
2-10-8. Overall Frequency Characteristic Check	7-35
2-10-9. Overall Distortion Factor Check	7-36
2-10-10. Overall Noise Level Check	7-36
2-11. Tuner System Adjustments	7-36
2-11-1. 30V Voltage Check	7-36
2-11-2. AGC Adjustment	7-36
2-11-3. Separation Adjustment	7-37
2-12. Adjustment Parts Location Diagram	7-38

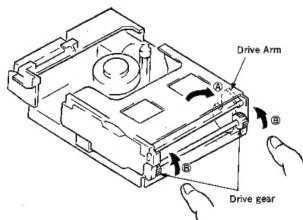
1. DESTINATION DIFFERENCE SCHEMATIC COMPONENT TABLE LIST

This manual are for the EV-S9000E AE, EV-S9000E B, EV-9000E NP, EV-S9000E UB, and EV-S9000E VC. Check model number by looking at the rear panel of VCR.

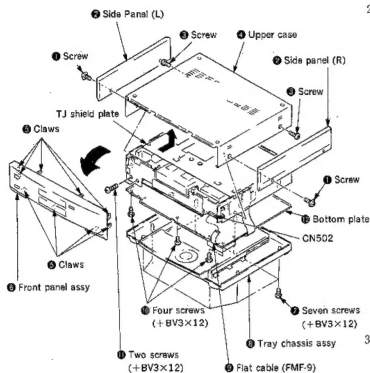
MODEL FEATURE	AE (Italian)	B (French)	NP (North European)	VC (German)	UB (UK)
CS-45 BOARD (Recording/Playing NICAM broadcasts)	—	—	B/G NICAM	—	I NICAM
CS-45 BOARD Recording Canal+/PAY-TV programmes	—	○	○	○	—
TC-30 BOARD (SECAM → PAL TRANCECODER)	—	○	—	—	—
VP-38 BOARD (Recording with VPS signals)	—	—	—	○	—

2. REMOVAL OF CASSETTE AT FAILURE WITH CASSETTE INSERTED

- ④ If tape is wound on the drum and it cannot be removed:
Rotate the capstan motor wheel in either direction and rotate the S or R reel to house the tape. Then, perform Procedure ⑥.
- ⑥ If tape is housed in the cassette half and cannot be removed:
 - ① Remove the MD block. (For removal, refer to Section 3-3.)
 - ② Rotate the drive arms at both sides of L frame and cassette compartment in the arrow direction ④.
 - ③ Rotate the connecting gear in the arrow direction ⑥ with both the thumbs.

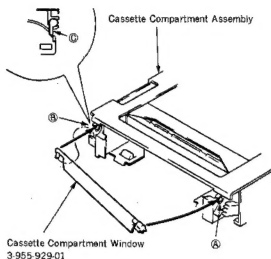


3. REPLACEMENT OF EXTERNAL PARTS



4. REPLACEMENT OF CASSETTE DOOR ASSEMBLY

- 1) Remove the front panel.
- 2) First undo ④ portion toward you and then undo ③.



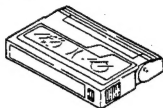
- 3) When installing, as shown above, first put in ③ portion by setting the claw ②. Then, put in ④ portion and install so that the door hangs almost vertically.

5. CLEANING OF VIDEO HEAD AND RUN SYSTEM

Method 1

(Cleaning Method with Cleaning Tape)

- A cleaning cassette should be used. (When using, the attached manual for the cleaning cassette should be thoroughly read.)

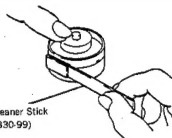


Method 2

(Cleaning Method with Cleaning Liquid)

- ① Remove the upper case of the video deck.
- ② Apply cleaning liquid to a head cleaner stick.
- ③ As shown in the right figure, press the head cleaner stick lightly. Turn the rubber of the rotary upper drum gradually and clean the video deck.

Head Cleaner Stick
(3-601-330-99)



(Cleaning Method for Run System)

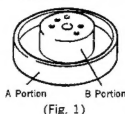
- ① Apply cleaning liquid to a head cleaner stick.
- ② Clean the guides which tape touches directly and the pinch roller with the head cleaner.

6. REPLACEMENT OF UPPER ROTARY DRUM

Method 3

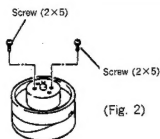
Caution

- Particular care must be taken when handling the video head and the terminals
- When handling the rotary upper drum, do not touch the side (A portion) and hold the top (B portion) (See Fig. 1)

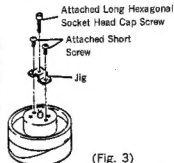


Removal of Rotary Upper Drum

- ① Remove two screws (2×5) (See Fig. 2).

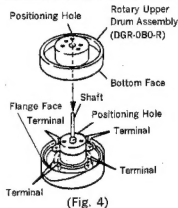


- ② Fix the jig (supplied with the spare rotary upper drum) with the two attached short screws. Then, put the attached long screw into the jig until the rotary upper drum may be removed (See Fig. 3).

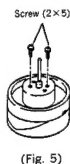


Installation of New Rotary Upper drum

- ① Clean the flange face and the bottom face of the new rotary upper drum (See Fig. 4).
- ② Insert the shaft attached to the jig into the positioning hole in the lower drum. Then, put the shaft through the positioning hole in the new rotary upper drum and set the drum lightly.



- ③ With the shaft inserted into the positioning hole, push into the upper drum lightly with a hand. If the drum is not allowed to be bottomed, alternately tighten two screws (2×5) gradually and install the drum (See Fig. 5).
- ④ Pull out the shaft inserted. If the shaft is not allowed to be withdrawn smoothly, go back to Step ② and redo the procedure.

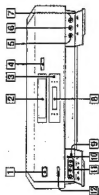


- ⑤ Once the drum has been replaced, clean the video head and the run system with a head cleaner stick (See "Cleaning Method 2 for Video Head and Run System).

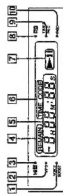
Refer to the pages indicated in () for details.

Index to parts and controls

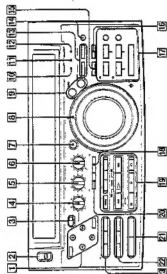
Front panel



Front panel display window



Operation panel



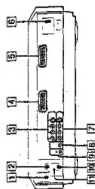
- 1 ON/STANDBY switch/indicator (11)
- 2 Tape compartment (23)
- 3 Remote sensor (7)
- 4 EJECT button (23)
- 5 Microphone jack (63)
- 6 Headphone jack
- 7 MIN/MAX (headphone volume) control
- 8 Display window
- 9 LANC jack (54)
- 10 CL button
- 11 LINE IN 2 AUDIO/VIDEO/JS jacks (63)
- 12 OPERATION PANEL OPEN/CLOSE switch (6)

- 1 VOICE BOOST indicator (29)
- 2 VPS indicator (EV-5000AE VC only) (29)
- 3 HIR indicator (3)
- 4 REMAIN indicator (24)
- 5 Linear time counter/Clock
- 6 TIME CODE indicator (58)
- 7 Tape operation indicator
- 8 Tape indicator
- 9 TIMER REC indicator
- 10 REC (recording) indicator (27)

- 1 MENU CURSOR \blacktriangle \blacktriangledown \blackleftarrow \blackrightarrow and EXECUTE buttons (10)
- 2 COMMAND MODE VTR OFF/1/2/3 switch (6)
- 3 AUDIO MONITOR PCM/MIX/STD (H-F) switch (23)
- 4 STD AUDIO LEVEL control (64)
- 5 PCM REC BALANCE control (27)
- 6 PCM REC LEVEL control (27)
- 7 VISUAL SCAN button (64)
- 8 JOG dial/SHUTTLE ring (23)
- 9 \blackleftarrow \blackrightarrow INDEX SEARCH buttons (45)
- 10 TEC indicator (43)
- 11 HIFI STEREO indicator (25)
- 12 PCM indicator (25)

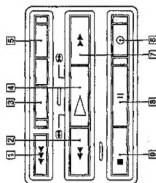
- 13 INDEX MARK/ERASE buttons (67)
- 14 TAPE SPEED G5/LP button (27)
- 15 COUNTER RESET button (24)
- 16 COUNTER SELECT button (24)
- 17 Tape editing buttons
- 18 TIME CODE WHITE button (58)
- 19 Tape operation buttons
- 20 AUDIO DUB button (63)
- 21 PROCAM buttons (11)
- 22 EXT button (50)
- 23 VPS button (EV-5000AE VC only) (29)
- 24 INPUT SELECT button (11)
- 25 NR button (43)
- 26 TV/PTV button (11)
- 27 TIMER CHECK button (24)

Rear panel



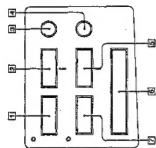
- 1 RF CHANNEL screw (11)
- 2 AERIAL OUT connector (9)
- 3 LINE IN 3 AUDIO/VIDEO/S VIDEO jacks (10)
- 4 EURO-AY (LINE 1) connector (10)
- 5 CANAL+ connector (EV-S9000E NP/IB only) / PAY-TV DECODER connector (EV-S9000E VC only) (20)
- 6 AC IN connector (9)
- 7 LINE OUT AUDIO/VIDEO/S VIDEO jacks (10)
- 8 CONTROL S IN jack (54)
- 9 LANC connector (54)
- 10 AERIAL IN connector (9)
- 11 LOCAL/DX switch (22)

Tape operation buttons



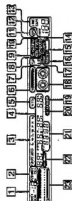
- 1 HI-SPEED REW button (23)
- 2 REW button (23)
- 3 TIMER REC ON/OFF button (28)
- 4 PLAY button (23)
- 5 QUICK TIMER button (28)
- 6 REC button (27)
- 7 FF button (23)
- 8 PAUSE button (23)
- 9 STOP button (23)
- 10 PAUSE button (23)
- 11 STOP button (23)

Tape editing buttons



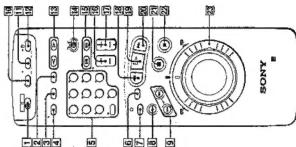
- 1 LANC REMOTE button (57)
- 2 ASSEMBLE button (59)
- 3 EDIT MONITOR ON/OFF button (62)
- 4 BACK button (61)
- 5 MARK button (59)
- 6 SYNCRO EDIT/START button (57)
- 7 EDIT STANDBY button (57)

Operation panel display window



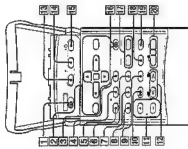
- 1 INDEX/SCAN and index number indicator (45)
- 2 ASSEMBLE IN/OUT indicator (59/60)
- 3 EVERY WEEK and weekday indicators (23)
- 4 Linear time counter/recording start time indicator (22)
- 5 VTR indicator (11)
- 6 Remaining tape length indicator
- 7 SP/LP (tape speed) indicators (25)
- 8 EDIT indicator (50)
- 9 SYNCHRO EDIT indicator (54)
- 10 NCAM indicator (20)
- 11 AUDIO DUB indicator (63)
- 12 VPS indicator (EX-59000E VC only) (55)
- 13 Channel number/input mode indicator (11)
- 14 MAIN/SUB indicators (25)
- 15 L/R indicators (25)
- 16 STEREO indicator (25)
- 17 AUTO indicator
- 18 Cassette indicator
- 19 REC indicator (27)
- 20 TIMER indicator (28)
- 21 Quick linear recording time/current time/recording stop time (19)
- 22 TIME CODE indicator (58)
- 23 Peak level meter

Remote commander (front,
with cover closed)



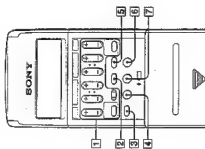
- 1 TV/VTR remote control switch (7)
- 2 EDIT MONITOR button (62)
- 3 AUDIO MONITOR button (25)
- 4 DISPLAY button (24)
- 5 Programme number buttons and +/- button (13)
- 6 DIGITAL SCAN button (38)
- 7 JOC/SHUTTLE button (38)
- 8 <<< 1H-SPEED REW button (23)
- 9 <<< 1/2 INDEX SEARCH buttons (45)
- 10 TIMER REC ON/OFF button (28)
- 11 TV/VTR button (11)
- 12 On/Standby button (11)
- 13 <> SHUTTLE EDIT button (50)
- 14 COMMAND MODE VTR 1/2/3 switch (8)
- 15 49/18 SEARCH buttons (23)
- 16 VOL (volume) +/- button
- 17 PROG (programme) +/- button (11)
- 18 << REW button (23)
- 19 >> FF button (23)
- 20 >>> FF button (23)
- 21 STOP button (23)
- 22 PAUSE button (23)
- 23 JOC-dial/SHUTTLE ring (23)

Remote commander (front,
with cover opened)



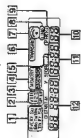
- 1 **12/17** remote control switch (7)
- 2 Micro business (10)
- 3 MENU/1/2/3/4/5/6/7/8/9/10/11/12/13/14/15/16/17/18/19/20/21/22/23/24/25/26/27/28/29/30/31/32/33/34/35/36/37/38/39/40/41/42/43/44/45/46/47/48/49/50/51/52/53/54/55/56/57/58/59/60/61/62/63/64/65/66/67/68/69/70/71/72/73/74/75/76/77/78/79/80/81/82/83/84/85/86/87/88/89/90/91/92/93/94/95/96/97/98/99/100/101/102/103/104/105/106/107/108/109/110/111/112/113/114/115/116/117/118/119/120/121/122/123/124/125/126/127/128/129/130/131/132/133/134/135/136/137/138/139/140/141/142/143/144/145/146/147/148/149/150/151/152/153/154/155/156/157/158/159/160/161/162/163/164/165/166/167/168/169/170/171/172/173/174/175/176/177/178/179/180/181/182/183/184/185/186/187/188/189/190/191/192/193/194/195/196/197/198/199/200/201/202/203/204/205/206/207/208/209/210/211/212/213/214/215/216/217/218/219/220/221/222/223/224/225/226/227/228/229/230/231/232/233/234/235/236/237/238/239/240/241/242/243/244/245/246/247/248/249/250/251/252/253/254/255/256/257/258/259/260/261/262/263/264/265/266/267/268/269/270/271/272/273/274/275/276/277/278/279/280/281/282/283/284/285/286/287/288/289/290/291/292/293/294/295/296/297/298/299/300/301/302/303/304/305/306/307/308/309/310/311/312/313/314/315/316/317/318/319/320/321/322/323/324/325/326/327/328/329/330/331/332/333/334/335/336/337/338/339/340/341/342/343/344/345/346/347/348/349/350/351/352/353/354/355/356/357/358/359/360/361/362/363/364/365/366/367/368/369/370/371/372/373/374/375/376/377/378/379/380/381/382/383/384/385/386/387/388/389/390/391/392/393/394/395/396/397/398/399/400/401/402/403/404/405/406/407/408/409/410/411/412/413/414/415/416/417/418/419/420/421/422/423/424/425/426/427/428/429/430/431/432/433/434/435/436/437/438/439/440/441/442/443/444/445/446/447/448/449/450/451/452/453/454/455/456/457/458/459/460/461/462/463/464/465/466/467/468/469/470/471/472/473/474/475/476/477/478/479/480/481/482/483/484/485/486/487/488/489/490/491/492/493/494/495/496/497/498/499/500/501/502/503/504/505/506/507/508/509/510/511/512/513/514/515/516/517/518/519/520/521/522/523/524/525/526/527/528/529/530/531/532/533/534/535/536/537/538/539/540/541/542/543/544/545/546/547/548/549/550/551/552/553/554/555/556/557/558/559/560/561/562/563/564/565/566/567/568/569/570/571/572/573/574/575/576/577/578/579/580/581/582/583/584/585/586/587/588/589/590/591/592/593/594/595/596/597/598/599/600/601/602/603/604/605/606/607/608/609/610/611/612/613/614/615/616/617/618/619/620/621/622/623/624/625/626/627/628/629/630/631/632/633/634/635/636/637/638/639/640/641/642/643/644/645/646/647/648/649/650/651/652/653/654/655/656/657/658/659/660/661/662/663/664/665/666/667/668/669/670/671/672/673/674/675/676/677/678/679/680/681/682/683/684/685/686/687/688/689/690/691/692/693/694/695/696/697/698/699/700/701/702/703/704/705/706/707/708/709/710/711/712/713/714/715/716/717/718/719/720/721/722/723/724/725/726/727/728/729/730/731/732/733/734/735/736/737/738/739/740/741/742/743/744/745/746/747/748/749/750/751/752/753/754/755/756/757/758/759/760/761/762/763/764/765/766/767/768/769/770/771/772/773/774/775/776/777/778/779/780/781/782/783/784/785/786/787/788/789/790/791/792/793/794/795/796/797/798/799/800/801/802/803/804/805/806/807/808/809/810/811/812/813/814/815/816/817/818/819/820/821/822/823/824/825/826/827/828/829/830/831/832/833/834/835/836/837/838/839/840/841/842/843/844/845/846/847/848/849/850/851/852/853/854/855/856/857/858/859/860/861/862/863/864/865/866/867/868/869/870/871/872/873/874/875/876/877/878/879/880/881/882/883/884/885/886/887/888/889/890/891/892/893/894/895/896/897/898/899/900/901/902/903/904/905/906/907/908/909/910/911/912/913/914/915/916/917/918/919/920/921/922/923/924/925/926/927/928/929/930/931/932/933/934/935/936/937/938/939/940/941/942/943/944/945/946/947/948/949/950/951/952/953/954/955/956/957/958/959/960/961/962/963/964/965/966/967/968/969/970/971/972/973/974/975/976/977/978/979/980/981/982/983/984/985/986/987/988/989/990/991/992/993/994/995/996/997/998/999/1000

Remote commander (rear,
with cover opened)



- 1 Timer recording/clock buttons (19, 32)
- 2 DAY button
- 3 NIGHT button
- 4 STOP button
- 5 PROG +/- button
- 6 TRANSMIT button
- 7 CLOCK SET button
- 8 TAPE SPEED button (27)
- 9 MEMORY button (34)
- 10 TIMER ON SCREEN button (36)
- 11 INPUT SELECT button (32)
- 12 TIMER CLEAR button (36)
- 13 TIMER CHECK button (36)


Remote commander display window



- 1 EVERY and weekday indicators (35)
- 2 VTR 1/2/3 (command mode) indicator (8)
- 3 SF/LP (tape speed) indicator (28)
- 4 MEMORY **A B C D** indicator (34)
- 5 Battery status indicator (7)
- 6 TRANSMIT indicator (19)
- 7 Execution signal indicator (33)
- 8 LINE indicator
- 9 PROG indicator
- 10 Program channel/line input indicator
- 11 Timer preset end (time indicator) (32)
- 12 Timer preset date and start time indicator (32)

Welcome!

Thank you for purchasing the Sony Video Cassette Recorder **HVR** (VCR). Here are some of the features you'll enjoy with your VCR:

- PCM audio recording system feature that allows you to take advantage of the latest technology in high-grade audio systems
- JOC dial and SHUTTLE ring for easy search operations
- LANC  jack to connect peripheral equipment such as another VCR which can then be controlled by this VCR.

Compatible colour systems

This VCR is designed to record and play back using the PAL colour system. Recording of video sources based on other colour systems cannot be guaranteed.
The EV-5900E B can receive PAL colour signals and SECAM signals which are converted to PAL colour signals. Recording and playback are based on the PAL colour system.

The instructions in this manual are for the EV-5900E AE, EV-5900E D, EV-5900E NT, EV-5900E UD, and EV-5900E VC. Changes made to the EV-5900E B and EV-5900E VC are not covered in this manual. EV-5900E NP is the model used for illustration purposes. Any difference in operation is clearly indicated in the text, for example, "EV-5900E VC only."

Types of differences

Feature	Model	AE	B	NP	VC	UD
Recording/playback	NICAM	-	-	•	•	•
Recording/playback	ZWEITON (Common stereo broadcasts)	•	-	•	•	-
Recording with	VPS signals	-	-	-	-	-
Recording	Quasi-/PA-TV programmes	-	•	•	•	-

HIGH (high eight) video system

Both **HIGH** and standard **S** cassette tapes can be used with this VCR. Refer to the charts below for the compatibility between the **HIGH** video system and the standard **S** system.

When playing a tape

This VCR automatically detects the type of tape being played, either **HIGH** or standard **S**. This VCR also automatically detects the tape speed (either SP or LP) the tape was recorded in.

Tape type	Recording format	Playback mode
HIGH tape	HIGH (high eight)	HIGH (high eight)
	S (standard item)	S (standard item)
Standard S tape	S (standard item)	S (standard item)

When recording on a tape

You can set this VCR to record in either **HIGH** or standard **S** format. See "Looking at menu options" on page 44.

Tape type	Recording format	SET UP MENU action
HIGH tape	HIGH (high eight)	AUTO
	S (standard item)	OFF
Standard S tape	S (standard item)	AUTO or OFF

- Notes**
- **HIGH** recording or playback can only be done using a **HIGH** tape.
 - You cannot make **HIGH** format recordings on standard **S** tapes.

Sliding a recording
Slide out the tab on the cassette so that the red colour appears. To re-record on the cassette, slide the tab back.

Checking your model name

Step 1

Unpacking

Check that you have the following items:

• Remote commander



• 16 (size AA) batteries



• Aerial cable



• S video cable



• Audio cable



• Mains lead



• RF screwdriver



• LAN cable



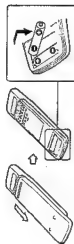
• Mains lead (EV-S3000E UB only)



Step 2

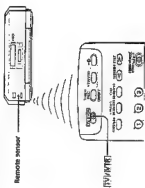
Setting up the remote commander

Insert two 16 (size AA) batteries by matching the + and - on the batteries to the diagram inside the battery compartment.



Using the remote commander

You can use this remote commander to operate this VCR and a Sony TV. Buttons on the remote commander marked with a dot (•) can be used to operate your TV.



To operate

	Set(TV/VIDEO)
this VCR	VCR and point at the remote sensor on the VCR
a Sony TV	TV and point at the remote sensor on the TV

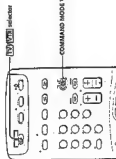
Notes

- With normal use, the batteries should last for approximately three to six months. When battery power gets low, the remote commander will not work properly. To avoid this, replace the batteries as soon as possible.
- If you do not use the remote commander for an extended period of time, remove the batteries to avoid possible damage from battery leakage.
- Do not use an old battery with a new one.
- Do not use different types of batteries.

Step 2 Setting up the remote commander (continued)

Setting the command mode

You can select three different positions for the command mode setting.



- 1 Turn on the VCR, then press **OPERATION PANEL OPEN/CLOSE** to open the operation panel.
Set the **COMMAND MODE VTR OFF/1/2/3** selector on the VCR to "VTR 2."
- 2 Set the **COMMAND MODE VTR 1/2/3** selector on the remote commander to "VTR 2."
- 3 Set the **VTR/VCR** remote control selector on the remote commander to "VTR."

Note
If you set the **COMMAND MODE VTR OFF/1/2/3** selector on the VCR to "OFF," you can no longer control this VCR from any other Sony remote commander.

Controlling other Sony video equipment if other Sony video

equipment has a **COMMAND MODE** selector

1 Set the **COMMAND MODE 1/2/3** selector on the remote commander

to the position you selected for this VCR.

2 Set the **COMMAND MODE** selector on any other video equipment to

the same position you selected in step 1.

If other Sony video equipment does not have a **COMMAND MODE**

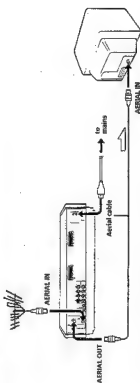
selector

You can control other Sony Video equipment using the following

COMMAND MODE settings:

- 1) **COMMAND MODE VTR 1/2/3**: Sony Betamax VCRs; position 1 (Some units may not be controlled in this mode.)
- 2) **COMMAND MODE VTR 1/2/3**: Sony 8 mm format VCRs; position 2
- 3) **COMMAND MODE VTR 1/2/3**: Sony VHS format VCRs; position 3

Step 3 Connecting the VCR



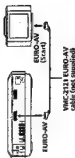
- 1 Disconnect the aerial input cable from your TV using the mains lead, and connect it to **AERIAL IN** of the VCR.
- 2 Connect **AERIAL OUT** of the VCR and the aerial input of your TV using the supplied aerial cable.
- 3 Connect **AC IN** of the VCR and the mains supply using the mains lead.
You've completed the basic hookup to switch and record TV programmes.

Step 3 Connecting the VCR (continued)

Additional connections

To a TV that has a **EURO-AV (S-ART)** connector

This additional connection can improve picture and sound quality.



When you play a tape, the picture appears on the screen automatically. (See page 23.)

To a TV that has an **S-EURO-AV (S-ART)** connector

This additional connection can improve picture and sound quality.

Connect your VCR to the TV as shown above, and set **EURO AV OUT** in the **SET UP MENU** to **S**.

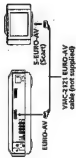
1) Press **MENU**.

2) Press **CURSOR A/▼** to select **SET UP MENU**, then press **EXECUTE**.

3) Press **CURSOR A/▼** to select **EURO AV OUT** and set to **S**.

To a TV that has an **S-VIDEO** connector

This additional connection can improve picture and sound quality.

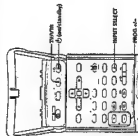


Notes

- If you use the **EURO-AV** hookup and want to use **S-VIDEO** input, the playback picture on the TV will be in black and white. In this case, set the TV to **S-VIDEO** input, or set the **EURO AV OUT** to **NORM** in the **SET UP MENU**.
- If your TV has an **S-VIDEO/VIDEO** selector switch, set this to the **S-VIDEO** position to view the picture from the **S-VIDEO** connector.

Step 4 Tuning the TV to your VCR

If you have connected the VCR to your TV using the **EURO-AV S**, or **AV** cable, skip this step.



1 Press **VCR** (onstandby) to turn on the VCR.

2 Press **TV/VIDEO** to light "VCR" in the operation panel display window.

3 Press **INPUT SELECT** until "L2" appears in the display window.

4 Turn on your TV and select a programme position for video playback.
For the **EV-50000E** E only, make sure that the **B/C** settings match those on the TV, or no picture appears.

5 Tune the TV between **UHF** channels **30** and **39** so that a blue screen appears on the TV screen.
Refer to your TV manual for tuning instructions.

6 Press **INPUT SELECT** until a programme number lights instead.

7 Press **PROG +/-** to check to see if the TV screen changes to a different programme.
You have now tuned your TV to the VCR. Whenever you play a tape, set the TV to the programme position selected in step 4 above.

To obtain a clear blue screen

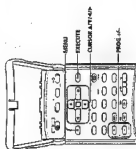
The blue screen may not appear clearly in step 5 above. In this case, turn the **CHANNEL** screw at the rear of the VCR with the **CHANNEL** screwdriver, to a position where the TV clearly displays a blue screen.


RF CHANNEL SCREW




Step 5 Tuning the VCR to TV channels (EV-S9000E AEIUB only)

Now you can set your VCR to receive broadcast channels using the on-screen display. Tuning instructions for the EV-S9000E NFIVC only and the EV-S9000E II only are on pages 14 and 16, respectively.




- 1  Lift the cover of the remote commander and press **MENU**.
The following menu appears on the TV screen.

- 2  Press **CURSOR** **Δ**/**∇** to move the cursor (**Δ**) to **TUNER PRESET**, then press **EXECUTE**.

- 3  Press **CURSOR** **Δ**/**∇** to move the cursor (**Δ**) to **NORMAL/CATV**, then select **NORM**.
To preset cable TV channels, select **CATV**.
If you are using the EV-S9000E UB, skip this step.

- 4  Press **CURSOR** **Δ**/**∇** to move the cursor (**Δ**) to **CHANNEL SET**.

- 5  Press **PROG** **Δ**/**∇** to select the programme position.

6



Press **CURSOR** **Δ** to start tuning.
The VCR starts searching for a channel and displays the number it finds on the TV screen. Press **EXECUTE** **Δ** to store the channel you want is displayed. The channels are scanned in the following order:

EV-S9000E UB
UHF B21 - B69
EV-S9000E AE
VHF E2 - E12
A - H (Hellas model only)
HYPER S21 - S41
CATV S1 - S30
HYPER S21 - S41
CATV S01 - S03

If you know the number of the channel you want, press the number buttons. For example, for channel 5, first press "0" and then press "5".

7

To allocate another channel to another programme position, repeat steps 5 and 6.

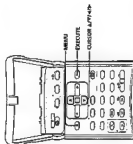
8

Press **EXECUTE** to store all the allocated channels.

Step 5

Tuning the VCR to TV channels (EV-S9000E NP/VC only)

Now you can set your VCR to receive broadcast channels using the on-screen display. Turn the cursor for the EV-S9000E A/V108 and the EV-S9000E B are on pages 12 and 16, respectively.



1. Lift the cover of the remote commander and press MENU.

The following menu appears on the TV screen.



2. Press CURSOR A/V108 to move the cursor (P) to TUNER PRESET, then press EXECUTE.



ITEM	VALUE
TUNER PRESET	1
CHANNEL	1
SET	1
NORMA	1
CATV	1
FINE TUNING	1
EXECUTE	1

ITEM	VALUE
TUNER PRESET	1
CHANNEL	1
SET	1
NORMA	1
CATV	1
FINE TUNING	1
EXECUTE	1

3. Press CURSOR A/V108 to move the cursor (P) to NORMA/CATV, then select NORMAL.



ITEM	VALUE
TUNER PRESET	1
CHANNEL	1
SET	1
NORMA	1
CATV	1
FINE TUNING	1
EXECUTE	1

ITEM	VALUE
TUNER PRESET	1
CHANNEL	1
SET	1
NORMA	1
CATV	1
FINE TUNING	1
EXECUTE	1

4. Press CURSOR A/V108 to move the cursor (P) to CHANNEL SET.



ITEM	VALUE
TUNER PRESET	1
CHANNEL	1
SET	1
NORMA	1
CATV	1
FINE TUNING	1
EXECUTE	1

ITEM	VALUE
TUNER PRESET	1
CHANNEL	1
SET	1
NORMA	1
CATV	1
FINE TUNING	1
EXECUTE	1

5



Press PROG 4 to select the programme position.

ITEM	VALUE
TUNER PRESET	1
CHANNEL	1
SET	1
NORMA	1
CATV	1
FINE TUNING	1
EXECUTE	1

ITEM	VALUE
TUNER PRESET	1
CHANNEL	1
SET	1
NORMA	1
CATV	1
FINE TUNING	1
EXECUTE	1

6



Press CURSOR 4 to start tuning. The VCR starts searching for a channel and displays the first one it finds on the TV screen. Press CURSOR 4/7 repeatedly until the channel you want is displayed. The channels are scanned in the following order:

- VHF B2 - E12
- A - H (higher model only)
- UHF B21 - E39
- CATV 51 - 500
- HYPER S21 - 541
- CATV S81 - 500

If you know the number of the channel you want, press the number buttons. For example, for channel 5, first press "V" and then press "5".

For PAY-TV/Canal Plus channel settings, see page 28 for details.

7

To allocate another channel to another programme position, repeat steps 5 and 6.

8

Press EXECUTE to store all the allocated channels.



Tuning the VCR to TV channels (EV-S9000E B only) (continued)

Tuning in French cable TV channels

This VCR scans CATV (cable TV) channels from B to Q and HYPER (extremely high frequency) channels from S21 to S41. In the TUNER PRESET menu, these channels are shown by their corresponding guide channel numbers, which run from 1 to 44. For example, channel B has guide channel number 1, whereas channel Q is indicated as number 23. (See the chart below.)

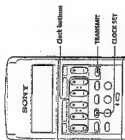
If a channel that you want to tune in is listed only by its frequency (e.g., 392.75 MHz), refer to the chart below for the corresponding guide channel number.

French cable TV channel chart

Channel	Guide channel number	Frequency range (MHz)
B	1	116.75 - 117.75
C	2	117.75 - 118.75
D	3	132.75 - 133.75
E	4	148.75 - 149.75
F	5	164.75 - 165.75
G	6	180.75 - 181.75
H	7	196.75 - 197.75
I	8	212.75 - 213.75
J	9	228.75 - 229.75
K	10	244.75 - 245.75
L	11	260.75 - 261.75
M	12	276.75 - 277.75
N	13	292.75 - 293.75
O	14	308.75 - 309.75
P	15	324.75 - 325.75
Q	16	340.75 - 341.75
S21	17	356.75 - 357.75
S22	18	372.75 - 373.75
S23	19	388.75 - 389.75
S24	20	404.75 - 405.75
S25	21	420.75 - 421.75
S26	22	436.75 - 437.75
S27	23	452.75 - 453.75
S28	24	468.75 - 469.75
S29	25	484.75 - 485.75
S30	26	500.75 - 501.75
S31	27	516.75 - 517.75
S32	28	532.75 - 533.75
S33	29	548.75 - 549.75
S34	30	564.75 - 565.75
S35	31	580.75 - 581.75
S36	32	596.75 - 597.75
S37	33	612.75 - 613.75
S38	34	628.75 - 629.75
S39	35	644.75 - 645.75
S40	36	660.75 - 661.75
S41	37	676.75 - 677.75
S42	38	692.75 - 693.75
S43	39	708.75 - 709.75
S44	40	724.75 - 725.75
S45	41	740.75 - 741.75
S46	42	756.75 - 757.75
S47	43	772.75 - 773.75
S48	44	788.75 - 789.75

Step 6 Setting the clock

You must set the time and date on the remote commander to be able to use the timer recording feature properly.



Slide down the back cover of the remote commander and press **CLOCK SET**.



Press the clock buttons until the current time and date appear.

To set the current time and date, press **D** +/- for the day, month, and year, **STOP H** +/- for the minutes. You can make the seconds appear by pressing **D** +/- for the minutes. You can make the seconds appear by pressing the minus (-) side of the buttons. The day of the week is set automatically.



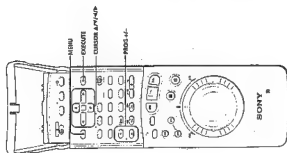
Point the remote commander at the VCR and press **TRANSMIT**. A beep sounds and the correct time appears in the VCR's display window.



Press **CLOCK SET**.

The remote commander LCD displays the time and date.

Additional tuning instructions



If the picture is not clear

Normally, the Auto Fine Tuning (AFT) function automatically tunes in channels clearly. If, however, the picture is not clear, you may also use the fine tuning function.

- 1 Press PROG +/- to select the programme number for which you cannot obtain a clear picture.
- 2 Press MENU, then select TUNER PRESET and press EXECUTE.
- 3 Select FINE TUNING. The fine tuning meter appears.



- 4 Press CURSOR </> to get a clearer picture, then press EXECUTE. Note that the AFT (Auto Fine Tuning) setting switches to OFF.

If the TV signal is too strong

Set the LOCAL/DIY switch on the rear of the VCR to LOCAL.

Disabling unwanted programme positions

After tuning the TV channels, you can disable unused programme positions that are displayed on the screen. When you press the PROG +/- buttons.

- 1 Press MENU, then select TUNER PRESET and press EXECUTE.
- 2 Press PROG +/- until the programme position you want to disable appears beside "PROC" on the TV screen.
- 3 Press number button "0" twice to display the number "0" beside CHANNEL SET.
- 4 Repeat steps 2 and 3 for other positions you want to disable.
- 5 Press EXECUTE.

Basic Operations

Playing a tape

This section shows you how to play back a video tape.

1 Turn on your TV and tune in the VCR:

- If the TV is connected to the VCR using the EURO-AV cable, the S-cable or AV cable, set the TV to video input.
- If the TV is connected to the VCR using the S-cable, set the TV to the programme position for the VCR.

2 Insert a tape.

The VCR turns on automatically.

3 Press > PLAY to start playing.

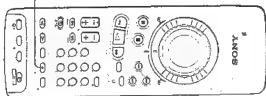
When the tape reaches the end, the VCR automatically rewinds it to the beginning. (The power remains on.)

Additional tasks

To	Press
Stop play	■ STOP
Pause play	■ PAUSE
Resume play after pause	■ PAUSE or > PLAY
Search forward	Press the JCG/SHUTTLE button, then turn the JCG/SHUTTLE ring to > during playback.
Search backward	Press the JCG/SHUTTLE button, then turn the JCG/SHUTTLE ring to < during playback.
Fast forward the tape	>>> FF during stop
Revised the tape	<<< REV during stop
Revised the tape at high speed	<<< H-REV REV

Tip
For further information on searching and playback functions, see "Tuning/Searching" and "Various options" on page 38.

Playing a tape (continued)



Notes

- When you play a tape, the VCR records the audio track in the selected mode. The audio track is recorded in the selected mode regardless of the AUDIO MONITOR setting.
- If you select the AUDIO MONITOR setting, you must use the EURO-NAV connection or a LINE connection.

Selecting playback sound of stereobilingual tapes

Press AUDIO MONITOR on the remote commander to select the desired sound. Each press of the button changes the display on the VCR and TV screen.

Stereo programmes	
To listen to	Press AUDIO MONITOR until
Stereo sound	The TV screen shows "STEREO" The display window shows "STEREO"
Left channel	"L"
Right channel	"R"
Bilingual programmes	
To listen to	Press AUDIO MONITOR until
Main sound	The TV screen shows "MAIN" The display window shows "MAIN"
Sub sound	"SUB"
Main and sub sounds	"MAIN/SUB"
	"MAIN SUB"

How sound is recorded on a video tape

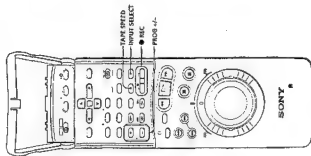
This VCR records sound in two tracks, high-fidelity sound (HIFI) and standard (AFM) track along with the picture. PCM (digital sound) is recorded onto the PCM track along the edge of the tape.



Recording TV programmes

Note

- You have connected your TV to your VCR using the EURO-NAV cable with the same name as the one on the back of the VCR. If you have not connected the TV to the VCR, see the SET UP MENU to NORMA. However, if your TV has a 5-pin plug, then you can connect the cable to the 5-pin socket in the SET UP MENU to 5.



This section shows you how to record TV programmes in the most basic way: manual recording. With manual recording, you start the VCR recording when the programme begins, then stop it when the programme ends. The VCR also provides the following ways of recording:

- Manually start and stop recording automatically—Recording
- Automatically start and stop recording—Recording TV programmes using the timer (page 32)

- Turn on your TV and tune in to the VCR.**
 - If the TV is connected to the VCR using the EURO-NAV cable, S cable, or AV cable, set the TV to video input.
 - If the TV is connected to the VCR using only the aural cable, set the TV to the programme position for the VCR.

When using a decoder, turn it on and set the VCR to the programme position you want to record.
- On the operation panel, set the PCM REC LEVEL control to "5" and the PCM REC BALANCE control to the centre.**
- Insert a tape with the safety tab slid back so that the red portion does not show.**
- Press INPUT SELECT until a programme position appears in the VCR's display window.**
- Select the desired programme position by pressing PROG +/-.**
- Select the tape speed, SP (standard play) or LP (long play), by pressing TAPE SPEED.**

See "To select tape speeds" on the next page.
- Start recording by pressing ● REC.**

When the tape reaches the end, the VCR automatically reverts it to the beginning.

Tip

- To select programme positions, use the number buttons on the remote commander. For example, to select programme 4, press the 4—first digit button, followed by the number buttons.

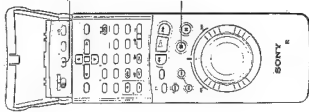
Recording TV programmes (continued)

Note

- If you insert a cassette with a safety label to show the red position, the VCR stops it when you press **REC**.

Tapes

- To cut out an unwanted part of a tape, press **PAUSE** from the **PLAY** or **REWIND** position. The VCR will record the tape to the next stop position. If you want to resume recording, press **PAUSE** to resume.
- The display appears on the TV screen indicating information about the tape. If you don't want to watch a tape, press **STOP** to turn off the TV. When using a decoder, make sure to leave it on.



To stop recording

Press **STOP**.

To select tape speeds

When recording, either **SP** or **LP** provides recording time for 30 minutes. **SP** provides 30 minutes. You can mix **SP** and **LP** on the same tape. When playing back, the VCR automatically detects the tape speed. See the table below for the maximum recording/playback time in each speed.

Tape type	SP	LP
ES/FS-30	30 min.	1 hr.
ES/FS-60	1 hr.	2 hrs.
ES/FS-90	1 hr. 30 min.	3 hrs.
ES-120	2 hrs.	4 hrs.

If you use other types of tapes than those listed above, the remaining tape length may not be displayed correctly.

Recording using the quick timer

The quick timer enables you to record for a specified period of time in intervals of 30 minutes. Once you specify the recording time, the VCR automatically stops recording. Before you begin, check that the clock is set correctly.

After you start recording, press **QUICK TIMER** on the operation panel until the desired duration appears in the display window. The **TIMER** indicator on the VCR lights up. Each press increases the recording duration in increments of 30 minutes as shown below.

0:00 → 0:30 → 1:00 → 1:30 → 2:00 → 2:30 → 3:00

The recording duration decreases minute by minute to 0:00, then the VCR turns off automatically.

To stop recording

To stop quick-timer recording while the VCR is recording a programme, press **TIMER REC ON/OFF** to turn off the **TIMER** indicator on the VCR.

To extend the recording duration while recording

Press **QUICK TIMER** until the desired duration appears in the display window.

Watching a TV programme while recording another

- You can watch a TV programme and record another at the same time.
- Press **PAUSE** on the top right of the remote commander to turn off the TV. The VCR indicates the desired position on the TV.
- Select the desired programme position on the TV.

Recording stereo and bilingual programmes in ZWETON (German stereo) system (EV-S9000E AEI NPVC only)

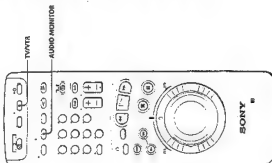
This VCR automatically receives and records stereo and bilingual programmes based on the ZWETON system. When stereo programmes are received, the **STEREO** indicator appears. When bilingual programmes are received, the **MAIN** indicator appears in the display window.

To monitor bilingual programmes while recording

Press **AUDIO MONITOR** to select the desired sound.

To listen to	Press AUDIO MONITOR until	The TV screen shows	The display window shows
Main sound	"MAIN"	"MAIN"	"MAIN"
Sub sound	"SUB"	"SUB"	"SUB"
Main and sub sounds	"MAIN/SUB"	"MAIN/SUB"	"MAIN SUB"

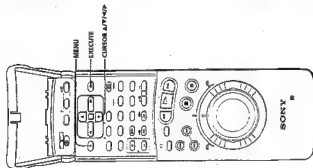
- To watch Canal Plus or TV while recording them, set the TV to video input.



Note

- The **AUDIO MONITOR** button doesn't work while recording stereo programmes in ZWETON system.

Recording TV programmes (continued)



Recording stereo and bilingual programmes: in NICAM system (EV-S9000E NP/UB only)

This VCR receives and records stereo and bilingual programmes based on the NICAM system. When NICAM broadcasts are received, the STEREO indicator appears in the display window; when stereo and bilingual broadcasts are received, the NICAM indicator lights up in the display window.

1 Press MENU and select SET UP MENU.



2 Set NICAM to ON by pressing CURSOR \blacktriangle / \blacktriangledown / \blacktriangleleft / \blacktriangleright .



3 Press EXECUTE to store the setting.

Using the NICAM setting, NICAM broadcasts are recorded as in the following table.

Track	Sound recorded		Bilingual
PCM	Left channel	Left channel	Main
PCM	Right channel	Right channel	Sub
APM (stereo)	Left channel	Standard	Standard
APM (HIFI)	Right channel	Standard	Standard

Tip
When you set NICAM to ON, the stereo sound is recorded on the PCM track and the standard sound is recorded on the APM track.

To monitor stereo and bilingual programmes while recording
Set NICAM to ON. Use the AUDIO MONITOR switch on the operation panel to select the desired sound.

Stereo programmes

To listen to	Set the AUDIO MONITOR switch to	The TV screen and the display window show
Stereo sound	PCM	"STEREO"
Standard sound	APM (HIFI)	No indication

Bilingual programmes

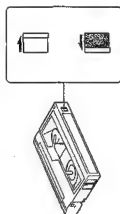
Use the AUDIO MONITOR button on the remote commander to select the desired sound.

To listen to	Set the AUDIO MONITOR switch to	The TV screen and the display window show
Main sound	PCM	"MAIN"
Sub sound	PCM	"SUB"
Main and sub sounds	PCM	"MAIN/SUB"
Standard sound	APM (HIFI)	No indication

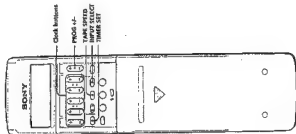
Saving a recording

Video tapes have a safety tab to protect against accidental recording. To prevent accidental erasures of a recording, slide out the tab on the cassette so that the red portion is visible. A tape with its safety tab in this position stops if you try to record on it.

To record on a tape, slide the tab so that the red portion is not visible.



Recording TV programmes using the timer



Click buttons
PROGRAM
TIMER SET

This section shows you how to let the VCR automatically start and stop recording TV programmes. You can preset up to eight programmes within a one month time frame.

Before you start...

- Insert a tape in set correctly.
- Insert a tape with its safety tab in place. Make sure the tape is longer than the total recording time.
- Turn on your TV and tune in to the VCR.
- When using a decoder, turn it on.

1 Slide down the back cover of the remote commander and press TIMER SET.

2 Set the date to start recording by pressing D +/-.

The day of the week is set automatically.
To record the same programme every day or the same day once a week, see 'Daily/weekly recording' on page 28.

3 Set the time to start recording.

- Press START 1 +/- to set the time.
- Press START 1 +/- to set the minutes.

4 Set the time to stop recording by pressing STOP M +/- and M +/-.

5 Select the programme position by pressing PROG +/-.

If you want to record via the LINE IN jacks, press INPUT SELECT. To select the desired tape, press TAPE SELECT. See 'To select tape upside on page 28.

6 Point the remote commander at the VCR and press TRANSMIT to store the setting in the VCR's memory.

A beep sound indicates that the programme has been transmitted to the VCR, and the TIMER indicator on the VCR lights up. The VCR will automatically start and stop recording and enter timer recording standby mode. To reset another timer setting, repeat steps 2 to 6. When using a decoder, leave it on. The VCR automatically turns on and starts recording at the preset start time and turns off at the preset stop time.

7 Press TIMER SET.

The remote commander displays the time and date.

To stop recording

To stop the VCR is recording a programme, press TIMER REC ON/OFF to turn off the TIMER indicator on the VCR.

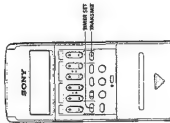
To use the VCR while recording

You can do the following tasks during timer recording.

To	Press
Reset the counter to "THERMOS"	COUNTER RESET
Display tape information on the TV screen	DISPLAY
Check the timer settings	TIMER ON SCREEN
Which another TV programme	TV/VTR (See "Watching a TV programme while recording another" on page 28)

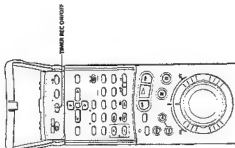
Tip

- To change or correct the setting being transmitted, point the button for the item you want to change.

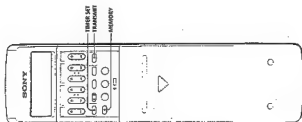


Note

- If the power is interrupted for more than one hour while the VCR is recording, the timer settings are cleared. Reset the timer.



Recording TV programmes using the timer (continued)



Storing frequently used settings in the remote commander

The items selected for one timer recording programme are erased from the remote commander's memory when the timer recording is cancelled from the programme that when recording has finished as per the settings you have made. However, the START/STOP time and programme position of up to four programmes can be stored in the remote commander and be recalled later. This enables you to quickly access the most frequently used settings, especially your favourite weekly programmes. The recording date is automatically shifted to the next week after this week's recording is finished.

- 1 Press **TIMER SET**. The **MEMORY** indicator lights up in the remote commander display when the **MEMORY** indicator lights up in the remote commander display, then press **MEMORY**.
- 2 Enter all of the settings for the programme you wish to record. To do this, repeat steps 1 to 5 under "Recording TV programmes using the timer" on page 32.
- 3 Press **MEMORY**.
- 4 To enter other programmes, press **MEMORY** to light the **MEMORY** and 3.
- 5 Press **TIMER SET**.

To recall or change memory settings

- 1 Press **TIMER SET**.
 - 2 Press **MEMORY** to call up the desired indicator **A**, **B**, **C**, or **D**.
 - 3 Make whatever changes necessary.
 - 4 Press **MEMORY**, then press **TIMER SET**.
- The VCR enters timer recording standby.

Using the VCR before timer recording begins

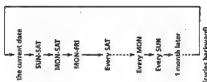
Press **TIMER REC ON/OFF** to turn off the **TIMER** indicator on the VCR, then press **○** (on/standby). The VCR is ready for use.

After using the VCR, press **TIMER REC ON/OFF** again to turn on the **TIMER** indicator on the VCR. Remember to reset the VCR to standby for recording before the time you've set the VCR to start recording, or the timer setting will be cancelled.

Daily/weekly recording

Daily recording records the same programme every day of the week; weekly recording records the same programme on the same day, every week.

When you set the date to start recording, in step 2 of "Recording TV programmes using the timer", press **D** - until the desired day appears. Each time you press the button, the indication changes as shown on the left.



Timer recording with VPS signals (EV-S9000E VC only)

The broadcast system transmits VPS (Video Programme System) signals with its TV programmes. These signals ensure that your timer will record the correct programmes, even if there are delays, early starts or broadcast interruptions. When setting the timer, refer to the start and stop times exactly as indicated in the TV programme guide, otherwise the VPS function will not work.

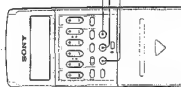
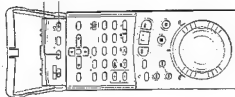
- 1 If the **TIMER** indicator on the VCR is lit, press **TIMER REC ON/OFF** on the VCR to release the VCR from standby and turn off the indicator.
 - 2 Press **○** to turn on the VCR.
 - 3 Press **○** to turn on the VCR.
 - 4 If you turned off the **TIMER** indicator in step 1, press **TIMER REC ON/OFF** on the VCR.
- The VCR returns to recording standby. Once you switch on the VPS function, it works on all timer settings that are set to programmes with VPS signals.



Notes

- If the VPS indicator lights up in the display window, the VPS function has been activated. The VPS function has priority. Therefore, if the VPS indicator lights up, the first programme that begins to record early when the VPS signal is received.
- If the VPS signal is not weak or the broadcasting station failed to transmit VPS signals, the VCR will record the programme without using the VPS function even if the VPS indicator is lit in the display window.

Checking/cancelling timer settings



This section shows you how to check and cancel the timer settings after you've stored them in the VCR.

Before you start...

- Turn on your TV and tune in to the VCR.

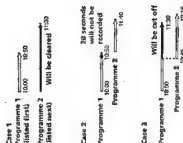
- 1 Press **TIMER REC ON/OFF** to turn off the **TIMER** indicator on the VCR.
- 2 Press **0** (standby) to turn on the VCR.
- 3 Slide down the back cover of the remote commander, and press **TIMER CHECK** to display the **PROGRAM LIST** on the TV screen.
- 4 Check the timer settings in the **PROGRAM LIST** screen.
 - If you do not want to cancel the settings, press **TIMER ON/SCREEN**, then **TIMER REC ON/OFF** to return to recording standby.
 - If you want to cancel the settings, press **TIMER CHECK** to move the cursor (P) to the setting you want to cancel.
- 5 **Cancel the timer setting:**
To cancel the setting, press **TIMER CLEAR**, then **TIMER ON/SCREEN**. The VCR returns to the original screen. If there are any other timer settings left in the **PROGRAM LIST**, press **TIMER REC ON/OFF** to return to recording standby.

To check the timer settings during timer recording
Press **TIMER ON/SCREEN** to turn the **PROGRAM LIST** on or off.

When the timer settings overlap

The VCR will not record overlapping programmes. If any of your timer settings overlap, change the settings.

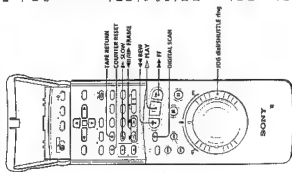
- Case 1: If you preset two programmes to start recording at the same time...**
The programme listed first on the **PROGRAM LIST** has priority over the other programmes. The timer settings of lower priority programmes will be erased from the **PROGRAM LIST** when the first programme begins recording.
- Case 2: If you preset programme 2 to start recording at the same time you preset programme 1 to finish recording...**
The last 20 seconds of programme 1 will not be recorded because the VCR will enter recording phase for programme 2 before programme 1 is finished.
- Case 3: If you preset programme 2 to start recording before programme 1 is finished recording...**
Programme 2 will start recording before programme 1 has finished.



Additional Operations

You can play back a tape at various speeds: high-speed, slow motion, frame by frame and so on. These options are also useful for searching for a specific point during playback. The sound is muted during these operations.

Playback options	Operation	To resume playback
Trying at various speeds: One with the nominal speed Twice the normal speed High speed	During playback, turn the SHUTTLE ring right or left to 1/2 X1 X2 or ∞	Release the ring and press ▶▶ PLAY.
Fast-forwarding/rewinding	During stop, press ▶▶ FF or ◀◀ REW and release.	Press ▶▶ PLAY.
Viewing the picture during fast-forward or rewind	During fast-forward, press ▶▶ FF. During rewind, press ◀◀ REW.	Press ▶▶ PLAY.
Fast-forwarding/rewinding in a high-speed picture	During fast-forward or rewind, press DIGITAL-PAUSE. To change direction, press ▶▶ FF or ◀◀ REW (both locked).	Press ▶▶ PLAY.
Lacking in a slow-motion picture	During playback or pause, press ▶▶ FF or ◀◀ REW (both locked) or ▶▶ FRAME (forward) or ◀◀ FRAME (backward).	Press ▶▶ PLAY.
Flipping frames by frame	During pause or stop, press ▶▶ FRAME to advance the picture one frame or ◀◀ FRAME to reverse the picture one frame.	Press ▶▶ PLAY.
Playing in reverse	During playback, press ◀◀ REW FRAME.	Press ▶▶ PLAY.
Replaying a scene	During playback, first press COUNTER-RESET when you come to a scene you want to replay later. When you are ready to replay, press ▶▶ STOP. Three times TAP RETURN and ▶▶ PLAY in quick succession.	—



Tip • You can improve picture quality during playback at various speeds. See "Adjusting the tracking" on page 42.

Note

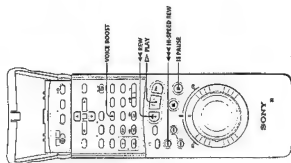
- When you are displaying the TIME CODE or remaining tape length on the counter display, you can't use the TAPE RETURN button.

Note

- When rewinding at high speed, you will not see the time counter. After the tape is rewound to the beginning the time counter displays "00:40:00:00".

Notes

- If you use VOICE BOOST on any tapes other than those recorded on a video camera, the audio portion of the tape will be difficult to hear.
- The VOICE BOOST function operates in standard hi-fi sound, and doesn't function when using PCM audio sound.



Listening more easily to conversation recorded with a video camera

When you play a tape recorded with a video camera, you can reduce external noises (such as wind and traffic sounds), and amplify the human voice portion of the audio by using the VOICE BOOST function.

- 2** To listen to a tape in normal audio, press **VOICE BOOST** again to turn it off.

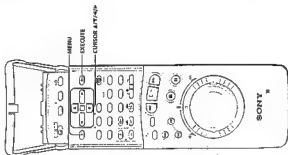
The VOICE BOOST indicator on the VCR goes out.

Adjusting the picture

On this VCR you can adjust the colour, sharpness, and the V/C delay. You can adjust the picture to suit your own viewing pleasure during regular tape playback. You can also adjust the tracking for slow-motion forward and reverse, and for two-times speed playback. (See page 42.) Using this menu option you can make the following picture

- **COLOUR** to adjust skin colour and colour tone and depth etc.
- **SHARPNESS** to obtain a clearer more precise picture.
- **Y/C DELAY** to adjust colour on the right or left portions of the picture.

Example of SHARPNESS adjustment



- # 1 Press MENU.



- 2** Press CURSOR Δ/∇ to move the cursor (\blacktriangleright) to PICTURE ADJUST.



- 3** Press **EXECUTE**.
The PICTURE ADJUST options appear.



- 4** Press CURSOR Δ/∇ to move the cursor (**P**) to SHARPNESS.



Vote

* The video signal is divided into Y (brightness element) and C (color element). The time delay gap between the transmission of these two elements is known as "Y/C delay."

Notes

- When the EDIT switch is set to ON, the PICTURE ADJUST settings are automatically set to default.
- Usually the default settings are adequate unless the tape is of poor quality or recording was made on another VCR.

- 5 Press **CURSOR** (←/→) to move the tracking bar (■) to adjust the sharpness.



- 6 Press EXECUTE.**
The new sharpness adjustment appears on the screen.



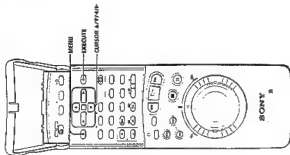
- To store your settings in memory, follows steps 1 to 3, then make your settings, then do the following:**
- 1** Press CURSOR Δ/∇ to move the cursor (\Rightarrow) to WRITE MEMORY.
 - 2** Press EXECUTE to enter the settings.



- To recall your stored setting, press READ MEMORY.**
When you want to change settings, press CURSOR Δ/∇ to move the cursor (\blacktriangleright) to RESET, then press EXECUTE to delete the WRITE MEMORY settings. These are automatically reset to the default settings as adjusted at the factory at the time of shipment.



Adjusting the picture (continued)



The VCR automatically adjusts the picture for the best possible playback or recording. If, however you find the automatic adjustment unsatisfactory, you can adjust the picture manually.

Adjusting the tracking

Although the VCR automatically adjusts the tracking when playing a tape, distortion may occur if the tape was recorded in poor condition. If so, manually adjust the tracking condition during SLOW - SLOW, or X2 play back. The tracking can only be adjusted automatically during normal playback.



1 Press MENU.

2 Press **CURSOR ▲/▼/▶/◀** to move the cursor (▶) to **TRACKING**
ADJUST



3 Press EXECUTE.



4 Press CURSOR Δ /V/4 to move the cursor (Δ) to the tracking adjustment position you wish to select (LOW, M, or HIGH).



- * To adjust tracking when in forward slow motion, select SLOW.
- * To adjust tracking when in reverse slow motion, select -SLOW.
- * To adjust tracking when in X2 (two-times speed), select X2.

5 Press CURSOR Δ / ∇ / \leftarrow / \rightarrow to move the tracking bar (■) to adjust the tracking for the mode you are in.



6 Press EXECUTE.

Reducing picture noise

When you play a tape that is in poor condition you can improve the playback quality by using the NR (Noise Reduction) function.

To change NR settings

Press NR to select the desired setting:

Question	AIR level	AIR indicator in the operation screen shows	The TV screen shows
You want to play back normally at this setting	NORMAL	Lights up	"NR STD"
You want to reduce the noise as much as possible	MAXIMUM	Lights up	"NR MAX"
You want a clear picture without even with the existing noise	OFF	No indication	"NR OFF"

Mothers

- ▶ If the picture flickers when adjusting the tracking, return the tracking bar (III) to the center position and try again.
- ▶ When viewing in reverse slow motion, even if you have adjusted the tracking, the picture might flicker and the colours might not be clear.

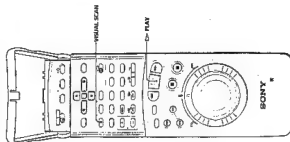
Verfahren

- When changing the NIR setting, it takes approximately 3 seconds for the new setting to show on the TV screen.

Searching using the index function - index search (continued)

Notes

- If the tape you are using has been recorded in a non-linear fashion, the search function doesn't work.
- If the first scene appears in black and white the other scenes may also be in black and white.
- After you press **VISUAL SCAN**, the TV screen displays a "SEARCH" message.
- When using the visual scan function, the first four seconds of the tape may not be displayed.



Locating up to 9 index points visually - VISUAL SCAN

Using the visual scan function you can find and play a programme you've marked with an index signal. You can view up to 9 different scenes on the TV screen at the same time. Either numbered or dated indexed scenes can be viewed. When you want to find a scene but don't know the exact location you can find it by using this function. You can view up to 9 scenes on the TV screen to search for the desired scene.

1 Press VISUAL SCAN while in stop mode.

The tape rewinds automatically. When the tape reaches the first index signal, the TV screen displays the first fast-forwarded to the first index signal. The first 1 scene appears on the TV screen. The VCR then fast-forwards to the next index signal. After 9 scenes are displayed on the TV screen the VCR stops searching for index signals.



Scene	Scene	Scene
1	2	3
Scene	Scene	Scene
7	8	9

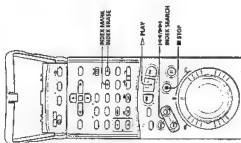
2 Press VISUAL SCAN again to view the next (10th) index signal in the 1 position.

When you see the scene you want to view, press **PLAY**.

Stop	1	2	3

Notes

- When mark on tape stops, the recorded sound may be interrupted and a black bar appears on the screen. If the tape is rewound, the tape will not be damaged.
- Leave an interval between index signals of at least 10 seconds for 1 frame, at least 4 seconds for 1 frame, and at least 4 seconds for 1 frame. If the interval is too short, the signal correctly.
- If you mark or erase an index signal on a tape that has been recorded in a non-linear fashion, the date codes may be erased.
- You can't mark or erase index signals on tapes that have their safety lock in the red position.



Note

- You can't erase index signals if the tape is recorded in a non-linear fashion. If the tape is recorded in a non-linear fashion, the index signals are marked by a video camera or other VCR.

Marking index signals

You can mark and index anywhere on a tape so that you can easily find the specific point later on. Press **INDEX MARK** while in recording or playback mode.



This VCR cannot mark a "date" index.

Erasing index signals

You can remove any unwanted "normal" index signals using this function. However, you can't erase "date" index signals.

1 Press **INDEX SEARCH** while in stop or playback mode.

The VCR rewinds or fast-forwards the tape automatically, and playback starts when the index number indicated on the TV screen reaches "0".

2 Press **INDEX ERASE** during the 10-second preview for the index you want to erase. To stop erasing index signals, press **PLAY** or **STOP**.



Looking at menu options

The SET UP MENU provides you with various options to set up and customise your VCR. See the table below for the available menu choices. Initial settings are indicated in bold letters.

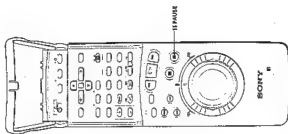
Menu choices	Set this option to
Menu option	
LANC MODE	<ul style="list-style-type: none"> M to control another VCR with this VCR using the LANC remote control. S to control this VCR with another VCR.
SHUTTLE MODE	<ul style="list-style-type: none"> AUTO to use the remote commander with a VCR that has a JOC/SHUTTLE function. A to use this remote commander with a VCR that doesn't have a JOC/SHUTTLE function.
TIC	<ul style="list-style-type: none"> ON to correct any slight shading or distortion. OFF to have any shading or distortion uncorrected.
AUDIO LINE IN	<ul style="list-style-type: none"> BT to listen to and record stereo sound using the AUDIO LINE INPUT jacks. BL to listen to and record bilingual programmes using the AUDIO LINE INPUT jacks.
INDEX SEARCH	<ul style="list-style-type: none"> NORM to search for index signals in numerical order. DATA to search for index signals by date.
DATA CODE	<ul style="list-style-type: none"> OFF to not have the day, month, year entered on the tape. ON to have the day, month, year entered on the tape. (Use if your video camera has this function.)
COLOUR SYSTEM (EV-5800ME B only)	<ul style="list-style-type: none"> AUTO to tune in French lowdefinition (normal setting). PAL to tune in the PAL system, such as German or Swiss broadcasts. If the signal is too weak or if the system is not PAL, the picture will be distorted (the programmes may not be displayed properly).
Hi-8	<ul style="list-style-type: none"> AUTO when you want to record a Hi8 tape in the Hi8 format. OFF when you want to record a Hi8 tape in the standard 8 mm format.

RF MODULATOR	<ul style="list-style-type: none"> ON if you have connected the VCR to your TV using the RF modulator. OFF if you have connected the VCR to your TV using the EURO-AV, S, or AV cable.
LINE VIDEO	<ul style="list-style-type: none"> NORM if you have connected the video output jack of the other VCR to the LINE IN 3 VIDEO. S if you have connected the S VIDEO output connector of the other VCR to the LINE IN 3 VIDEO connector of this VCR.
EURO AV OUT	<ul style="list-style-type: none"> NORM when using a EURO-AV SCART cable. S when using a EURO-AV SCART cable connected to a TV with an S connection.
NICAM (EV-5800ME N700B only)	<ul style="list-style-type: none"> ON to listen to and to record stereo/bilingual programmes that are broadcast on the NICAM system. OFF when you want to listen to and to record stereo programmes. OFF when you do not wish to use the NICAM system.

Shuttle editing

Note

- During shuttle editing, use the JOC dial/SHUTTLE ring to select the desired event on the screen. Press the remote commander. Use the SHUTTLE EDIT feature on the remote commander instead.



This section shows you how to edit VCR recordings in the most basic way: shuttle editing. The VCR also provides the following ways of editing:

- Editing in or from another VCR or camcorder—“Editing with another VCR” (page 52).
- Editing via the LANC \oplus or CONTROL 5 jacks of two VCRs—“Synchronized editing” (page 54).
- Taking events from one tape and assembling them onto another tape in any order—“Assemble editing” (page 58).
- Linking clips from different tapes for center editing—“Using the edit monitor function” (page 62).
- Adding music or narration on the PCM track—“Audio dubbing” (page 63).

During recording

If you want to cut out events such as TV commercials, you can pause recording and play back the tape in the reverse direction until the beginning of an unwanted event is reached. Then, record over it. This feature only works from the VCR. During linear recording, you can't use this function.

1 Press II PAUSE during recording.

The VCR enters recording pause mode.

2 Turn the JOC dial/SHUTTLE ring on the VCR counter-clockwise to rewind the tape until the unwanted event appears.

If you turn the JOC dial/SHUTTLE ring, you can select the playback speed by how fast you turn it, and if you turn it. When you release the dial or ring, the VCR enters recording pause mode.

3 Press II PAUSE when a desired event appears on the screen.

Recording starts.

During playback

You can re-record onto an unwanted portion of a pre-recorded tape. Use the JOC dial/SHUTTLE ring on the VCR.

1 When an unwanted event appears during playback, press II PAUSE.

The VCR enters the playback pause mode.

2 Turn the JOC dial/SHUTTLE ring on the VCR until the beginning of the unwanted event appears on the screen.

Turn the JOC dial/SHUTTLE ring to the desired playback speed. When you release the dial or ring, the VCR enters playback pause mode.

3 Press \bullet REC on the VCR or the remote commander.

The VCR enters recording pause mode.

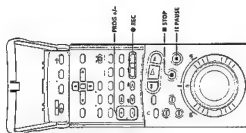
4 Select a new programme for re-recording. Press PROG Δ to select a new programme or press Δ on the VCR.

If you have made the connection using the line input jacks, press INPUT SELECT.

5 Press II PAUSE when the event you want to record appears on the screen.

Recording begins.

To stop recording
Press \blacksquare STOP.



Note

- The picture may be distorted when the VCR enters recording pause mode (recording end point).

Editing with another VCR

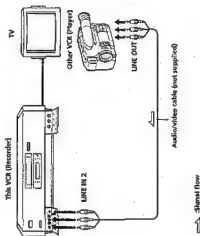
- Tips**
- Make sure you connect the video cables to the correct color jacks at the rear of the VCR.
 - To connect the playback VCR to the TV, use the VIDEO IN 1 jack on the TV. In the case of the VCR, press INPUT SELECT to display "L1" in the monitor.
 - If the playback VCR is a remote-control type and you use the VIDEO IN 2 on the front of the VCR, make sure you connect the AUDIO L to the L jack.

- Note**
- If the playback VCR has an S-video connector, use the supplied S-video cable to connect the TV VCR connection. This connection gives you a better picture quality than the standard video cable.
 - When using VIDEO or LINE IN, make sure you connect the VIDEO IN 1 to the SET UP VIDEO IN 1 on the SET UP MENU.

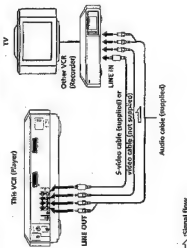
- If you use the VIDEO IN jack on the TV, make sure you connect the VIDEO IN 1 to the VIDEO IN 1 on the TV. In the case of the TV, press INPUT SELECT to display "L1" in the monitor.
- When connecting the VCR, do not simultaneously connect the LINE IN and VIDEO IN. A humming noise may occur if you do this.
- If you use the VIDEO IN jack on the TV, make sure you connect the VIDEO IN 1 to the VIDEO IN 1 on the TV. In the case of the TV, press INPUT SELECT to display "L1" in the monitor.

This section shows you how to edit to or from another VCR or camcorder. You can make a copy of a tape using this VCR for recording or playback.

How to hook up to record on this VCR



How to hook up to record to another VCR



Operation (when recording on this VCR)

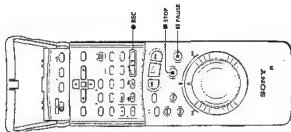
Before you start editing

- Press INPUT SELECT to select the recording tape speed (SP/LP).
- If the other (playback) VCR has an EDIT function, set it to ON.

- 1 Insert a source tape into the playback VCR. Search for the point to start playback and set the VCR to playback pause.
- 2 Insert a tape into this (recording) VCR. Search for the point to start recording and press II PAUSE.
- 3 Press ● REC on this VCR and set it to recording pause.
- 4 To start editing, press the II PAUSE buttons on both VCRs to release the VCRs from pause. For best results, press the pause button on the playback VCR just before pressing II PAUSE on this VCR.

To stop editing

Press the ● STOP buttons on both VCRs.



Note

Make sure that the video cable is connected to the correct position. If the playback VCR is a VHS model, make sure that the video cable is connected to the correct tape has been removed.

Tips

- To make your editing more precise, release the VCR from pause before pressing II PAUSE. When you press II PAUSE, not on the remote control, the VCR will pause the tape while editing. Press II PAUSE on the VCR when you want to resume editing. When II PAUSE is pressed, the VCR will resume recording, automatic editing.

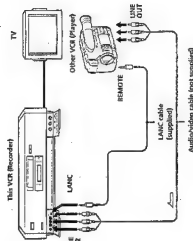
Synchronised editing

Notes

- If the playback VCR is a PAL model, connect the LINE IN 2 jack and your audio cable to the ALFORD 1 (left) jack.
- If the playback VCR is a NTSC model, connect the VCR's LINE IN 2 and LINE OUT jacks to your VCR's VIDEO IN and VIDEO OUT jacks simultaneously. Doing this will ensure a better picture of higher quality.
- If the playback VCR has an RF output, connect the RF cable to the VIDEO IN connector (5-video cable). This connection gives you a picture of higher quality.
- When using VIDEO IN or LINE IN/5 VIDEO, set LINE 3 MODE to the SET UP MENU.
- If you use the VIDEO IN jack and 5 VIDEO IN connector, connect the LANC cable to the LANC IN 2, the 5 VIDEO IN connector (5-video cable) and the LANC cable to the LANC IN 2.
- Do not use the same LANC cable for both VCRs, as this may cause a malfunction.
- When using the VCR for playback, press **RECALL** on the playback VCR. The information will appear on the TV screen.

If the playback VCR has a LANC \oplus or CONTROL 5 jack, connect the VCR to the LANC \oplus or CONTROL 5 jacks. This additional connection lets you control both VCRs from one VCR for easier editing.

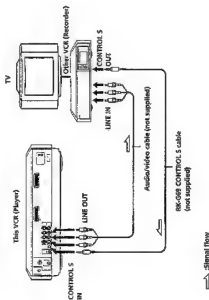
How to hook up via the LANC \oplus jacks



— Signal flow

How to hook up via the CONTROL 5 jacks

The CONTROL 5 connection only enables you to pause and rebroadcast. Use the LANC \oplus jack if the playback VCR has both LANC \oplus and CONTROL 5 jacks.



— Signal flow

Setting the LANC mode

The LANC mode setting determines which VCR controls which. Here's how to control the playback VCR from this VCR.

1 Press MENU and select SET UP MENU.



2 Set LANC MODE to M by pressing CURSOR Δ /V/4/9.

On the playback VCR, set the LANC mode to S and the SHUTTLE MODE to either AUTO or A, depending on the type of playback VCR you are using. See "Looking at menu options" on page 48.



3 Press EXECUTE to store the setting.

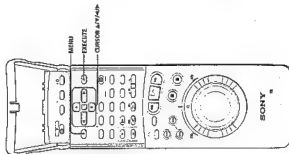
To control this VCR from the playback VCR, set LANC MODE to S on this VCR and to M on the playback VCR.

About LANC \oplus

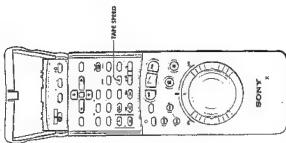
LANC stands for Local Application Control System. The LANC \oplus connector is used for controlling the tape transport of video equipment and peripherals connected to it. This connector has the same function as connectors indicated as CONTROL 1 or REMOTE.

Notes

- Do not connect the LANC \oplus connector to a VCR that does not have a LANC \oplus connector.
- If the type recording VCR is not the same as the playback VCR, set the LANC \oplus mode to S on the playback VCR to pause. This VCR may display a line error on the screen.
- This is not an indication of a malfunction.
- When you record a stereo/monaural video, the LANC \oplus connector of the playback VCR, not the audio output of that VCR, is used to output the audio signal to the TV.
- On the VCR, set the AUDIO LINE IN option in the SET UP MENU according to the type of the VCR.



Synchronised editing (continued)



Operation (when recording on this VCR)

Before you start editing

- Make connections according to the illustration on page 54.
- If the playback VCR is equipped with an S-video output connector, use the supplied S-video cable for additional connection of the VCR.
- If the playback VCR is a monaural type, connect the white plug to its audio output jack and the white plug on the other end to the LINE IN 2 AUDIO L (white) jack of this VCR.

On the playback VCR

- If available, activate the EDIT mode.
- If available, select LANC MODE S or equivalent.

On this VCR

- Set the VCR MODE to M in the SET UP MENU. See "Looking at menu options" on page 48.
- Adjust the recording level. For details, see page 27.
- Check if the playback VCR has a JOG/SHUTTLE function, then set SHUTTLE MODE to either AUTO or A. (See "Looking at menu options" on page 48.) Note that some VCRs do not have a JOG/SHUTTLE function.
- Select the tape speed, SP or LP, using the TAPE SPEED button.

- 1 Insert a source tape into the playback VCR. Insert a tape for recording into this VCR.
- 2 Press EDIT STANDBY on this VCR so that the EDIT STANDBY indicator lights up on the operation panel. This VCR enters recording pause and the playback VCR enters pause.
- 3 Press LANC REMOTE on the VCR so that the LANC REMOTE indicator lights up on the operation panel. Then turn the JOG dial/SHUTTLE ring to locate the start point on the playback VCR.
You can also use the tape transport buttons on this VCR.
- 4 Release the JOG dial/SHUTTLE ring when you have found the desired point.
The playback VCR enters playback pause. If you have used any of the tape transport buttons, and the playback VCR to playback pause.
- 5 Press LANC REMOTE on the VCR so that the Indicator goes off. Then turn the JOG dial/SHUTTLE ring to locate the insertion start point on this VCR's tape.
- 6 Press SYNCHRO EDIT/START.
Synchronised editing starts.
- 7 When you have finished your editing session, press SYNCHRO EDIT/START.
Both VCRs enter recording pause.
- 8 To edit more scenes, repeat steps 3 to 7.
- 9 When you have finished your editing session, press EDIT STANDBY.
Both VCRs stop.

Assemble editing

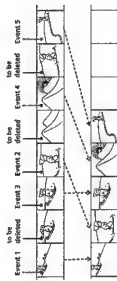
Tips

- If the playback VCR you're using has a **TIME CODE WRITE** function but only a read-time code, precise editing becomes more difficult. When using the **TIME CODE WRITE** function to work correctly, you must enter the time code manually. If the VCR has a **TIME CODE WRITE** function, you can use it to write the time code onto the tape you want to edit.
- When using the **TIME CODE** function, you must carefully watch for a cleared event as each frame is given a readable code signal.

Notes

- The **TIME CODE WRITE** function on the VCR and the **TIME CODE** function on the VCR are not compatible.
- If you press another button while the **TIME CODE** function is working, the writing stops automatically.
- If you use a tape that has been recorded by a VCR with a **TIME CODE WRITE** function may not work.
- If you connect a video camera that shows stills or scenes when freezing the time code, the time code may be difficult to read.
- Make your editing decisions before you start editing. If you're not sure, you can't correct your event; you want to edit precisely aligned, or use the **TIME CODE** function instead of the **TIME CODE** function. A block of time code is written at the bottom of the screen. This is an indication of a malfunction. This block has a time code that is not an event. If you're editing, you are giving the edit.

With this function you can take events from one tape and assemble edit them onto another tape. You can insert as many events onto the new tape that you require. Using the assemble editing function, you can assemble edit up to eight different events at a time.



Using the TIME CODE WRITE function on a playback tape

When you connect this VCR to a VCR that features the **TIME CODE WRITE** function, you can use this function for assemble editing. This function allows you to perform more precise editing. It inserts frame position signals on the tape, and thus indexes (by numbers) the portions of the tape that you want to edit. However, if there are unrecorded segments on the portion that you want to edit, precise editing can't be guaranteed. In this case you must enter the time codes onto the playback tape in the other VCR.

- 1 Rewind the playback tape to the beginning.
- 2 Press **TIME CODE WRITE** on the VCR.
- 3 Press **TIME CODE WRITE** on the VCR.
- 4 Press **PAUSE** to start playback.
- 5 Press **STOP** at the end point of the portion that you want to edit.

Time code information is automatically written onto the tape.

Time code insertion stops.

Operation (when recording on this VCR)

Before you start editing

- Connect this VCR to the playback VCR using the same connections as illustrated in the section "Synchronised editing" on page 54. (Be sure to read the operating instructions for the playback VCR before making connections.)
- Set the TV to video input.
- Press **INPUT SELECT** to select the line input that the playback VCR is connected to.
- The playback VCR has a **TIME CODE** function, activate it to display the time code on the TV screen.
- On the playback VCR, set the **SHUTTLE MODE** to either **AUTO** or **A** (see page 48).

1 Press ASSEMBLE on this VCR.

The assemble editing menu appears on the TV.

2 Press LANC REMOTE on this VCR.

"REMOTE" appears on the TV screen, and the REMOTE indicator lights up on the operation panel. You can now use the LANC REMOTE to transport built-in from this VCR.

3 Find the first frame of the event you want to assemble edit.

Using this VCR to operate the playback VCR to find the event you want to edit, then proceed to step 4.

4 Press MARK on the VCR to mark the "in" frame for the event you are assemble editing.

(continued)

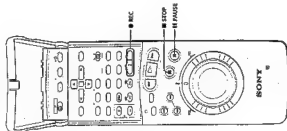
Assemble editing (continued)

Tip

- The TOTAL TIME figure gives the total time for all the events in the assembly. The recording time must match that of the events to be edited, or the events will not be recorded properly.

Notes

- Press a piece of about two seconds between the IN frame and OUT frame, or the events cannot be marked.
- When you want to stop assemble editing, press **STOP**.
- When the TIME CODE is less than 00:10:00, the editing will not be very accurate. Do the editing normally as described in the "Assemble editing" section on page 24.



- 5 Find the last scene of the event you want to assemble edit.**
Once the end of the first event has been found, go to step 6.

- 6 Press MARK on the VCR to mark the "OUT" frame.**

"IN" flashes, and the total time of the event you have selected is displayed. After a couple of seconds, the VCR is ready for setting the next event.

IN	00:00:00	00:00:00
OUT	00:01:00	00:01:00
TOTAL TIME	00:01:00	00:01:00
EVENTS	00:01:00	00:01:00

- 7 Repeat steps 3 to 6 to select another event for editing.**
Up to 8 events can be selected for assemble editing.

- 8 When you have finished selecting your events, press **STOP**.**

- 9 Press LANC REMOTE when you are finished designating the required events.**

The REMOTE indicator no longer appears. The playback VCR can no longer be controlled by this VCR.

IN	00:00:00	00:00:00
OUT	00:01:00	00:01:00
TOTAL TIME	00:01:00	00:01:00
EVENTS	00:01:00	00:01:00

- 10 Find the recording start point using this VCR.**
When the start point has been found, press **II PAUSE** and then **REC**.

- 11 Press SYNCING EDIT/START.**

"EAT" appears on the TV screen, and assemble editing is completed. The VCR enters the recording pause mode.

IN	00:00:00	00:00:00
OUT	00:01:00	00:01:00
TOTAL TIME	00:01:00	00:01:00
EVENTS	00:01:00	00:01:00

- 12 When you have finished your editing session, press **ASSEMBLE**.**

To assemble edit more than 8 events

Repeat the above described procedure to assemble edit the additionally required number of events.

- After you have finished one assemble editing session, press **ASSEMBLE**. The assemble editing guide is cancelled. The contents stored in memory are deleted.
- When the VCR enters recording pause mode, press **STOP**.
- Repeat from step 1 on page 29.

To change the settings stored in memory

Press **STOP** on the TV screen. Only the last event you have entered for assemble editing can be changed. If you press **BACK** twice in a row, the event entered last is deleted.

To check the settings stored in memory

Press **STOP**. To cycle through the designated events, press **BACK**.

To stop assemble editing temporarily

Press **SYNCHRO EDIT/START**. When you wish to resume assemble editing, editing starts from the first event.

Tip

In the purpose of protecting the tape when you are in recording pause mode, after a certain period of time, the VCR will automatically return to the stop mode.

Notes

- When you press **BACK**, the VCR returns to the last frame of the event you are editing. If you press **BACK** again, it returns to the first frame of the event.
- When the VCR is designated as the end frame, the tape records through to the end.
- If you press **II PAUSE** when you are editing, the event you are editing is not. If you have another event, the event you are editing is not automatically called.
- During fast forwarding or rewinding, the VCR CODE indicator in the playback VCR should show "EAT". The assemble editing is completed. In this case, please use the synchronized editing function manual.

Using the edit monitor function

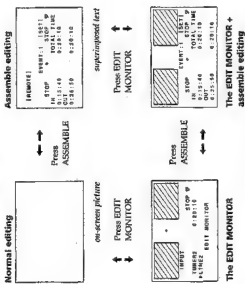
- Tip**
- If you connect to a video monitor, the edit monitor function will not work when freezing the picture; the test on the screen will be visible only on the edit monitor function. When you need the information easily.

- Note**
- Depending on the playback speed, the test on the edit monitor may not be displayed.

The edit monitor function both simplifies and perfects your editing. This means that you can combine the features of assemble and synchronised editing. When you choose to do this, you can monitor both the visual and time-frame aspects of up to eight events in one editing session.

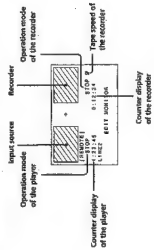
To monitor editing

When the normal editing mode is displayed on the TV screen, you can switch between editing modes according to the illustration below:

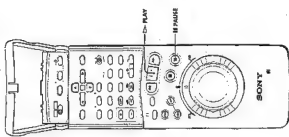


For more details on the individual editing modes mentioned here, refer to the respective sections.

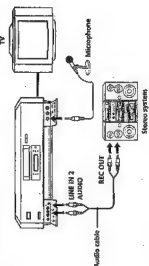
The EDIT MONITOR



Audio dubbing



How to hook up



You can add music or narrative on a pre-recorded tape while watching the VCR playback picture. Audio-labelled sound is recorded on the PCM track. (See page 28.)

Operation

Before you start editing

- Press INPUT SELECT to display "1-2" in the display window.
- Set the AUDIO MONITOR selector to PCM.

1 Set the PCM REC LEVEL control to the desired setting.

This allows you to balance the sound level of the sound to be dubbed against that of the standard track.

2 Press ▷ PLAY.

- Find the start point of the tape segment that you want to dub new sound onto, and press II PAUSE.

4 Press AUDIO DUB.

The AUDIO DUB indicator lights up in the display window.



(continued)

- Notes**
- You must be in playback mode when using the AUDIO DUB function.
 - When recording new sound, you cannot use the audio dubbing function.
 - Audio dubbing cannot be done if the safety lock on the VCR is engaged. To return the VCR to normal operation, press the red position.

Audio dubbing (continued)

- 5 Press **II** PAUSE when you start the playback source, or want to start adding narration using a microphone.

- 6 When you have finished your audio dubbing session, press **II** STOP on this VOL.

View

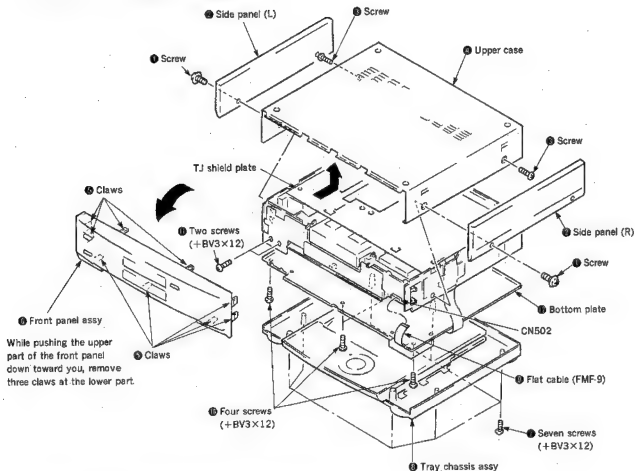
- For "low sound" is recorded on a video tape* on page 28.
- For fade-in/pause, adjust the volume of the recorded sound from the zero point to the normal position.
- For the recorded sound, turn it from the normal position to the zero point.
- The sound from the LINE IN (front panel) and the MIC jack on the front panel can be mixed.

Notes

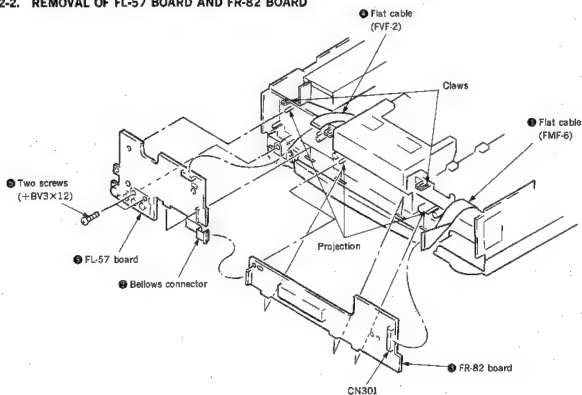
- The added sound cannot be played back on a video tape without PCM recording or playback functions.
- The recorded sound on the PCM track, during dubbing, should not be recorded on the PCM track.
- During dubbing, the picture may start in the bottom part of the screen. This does not affect the recorded sound.
- The picture may shake or columns may fade on certain scenes.
- Sound from a microphone is recorded in mono.
- The microphone is not connected to the MIC jack, or the sound will be mixed with the sound from the LINE IN AUDIO 2 or 3.
- If you dub new sound to a video tape, the original A/CODE information, the information is erased.

SECTION 2 DISASSEMBLY

2-1. REMOVAL OF CABINET ASSEMBLY

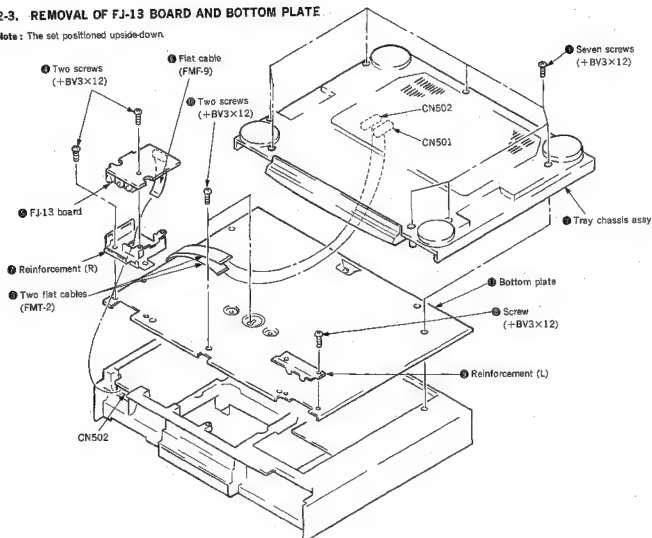


2-2. REMOVAL OF FL-57 BOARD AND FR-82 BOARD

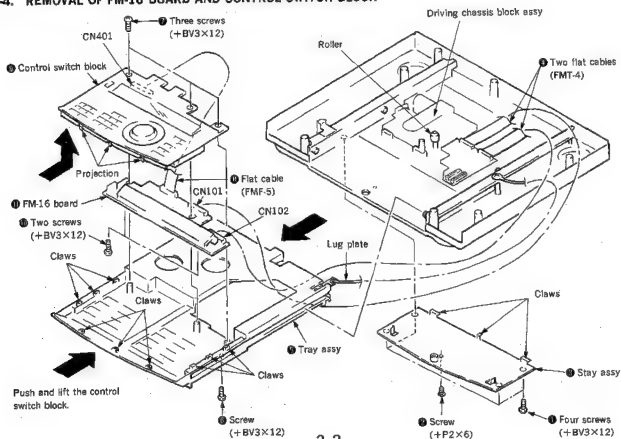


2-3. REMOVAL OF FJ-13 BOARD AND BOTTOM PLATE

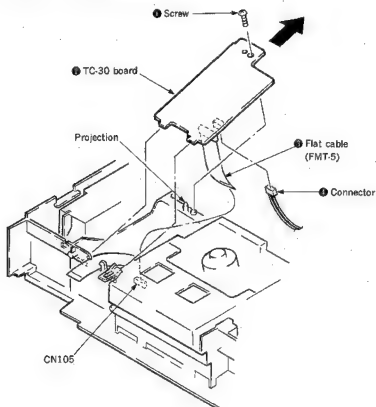
Note: The set positioned upside-down.



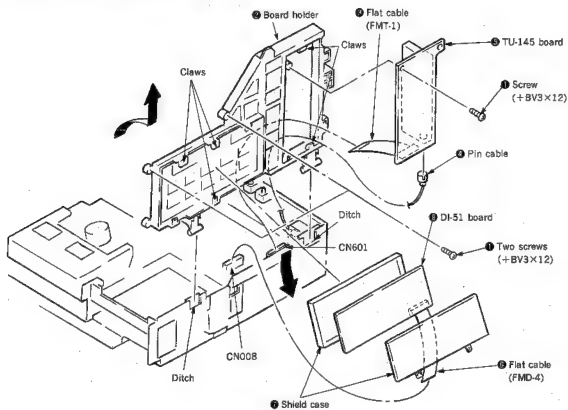
2-4. REMOVAL OF FM-16 BOARD AND CONTROL SWITCH BLOCK



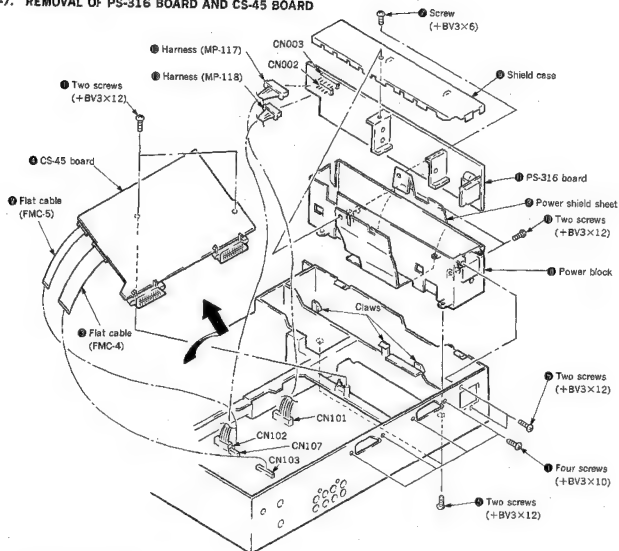
2-5. REMOVAL OF TC-30 BOARD (VC, NP, B MODEL)



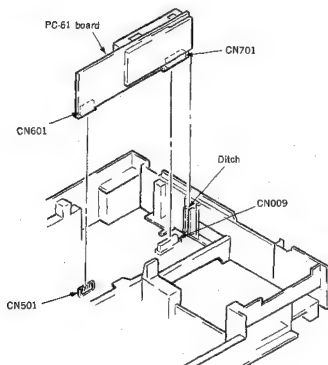
2-6. REMOVAL OF TU-145 BOARD AND DI-51 BOARD



2-7. REMOVAL OF PS-316 BOARD AND CS-45 BOARD

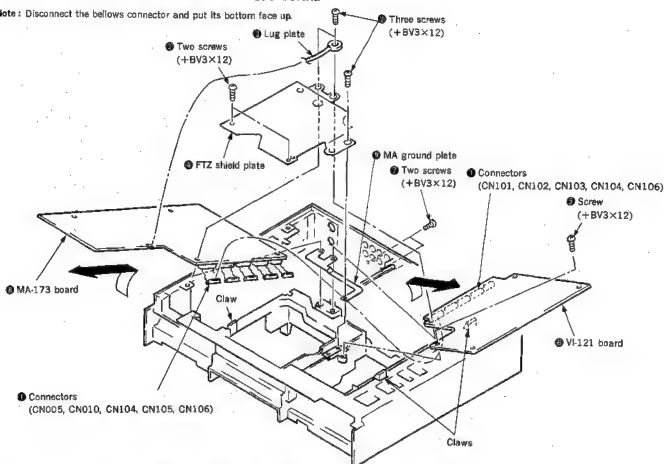


2-8. REMOVAL OF PC-61 BOARD

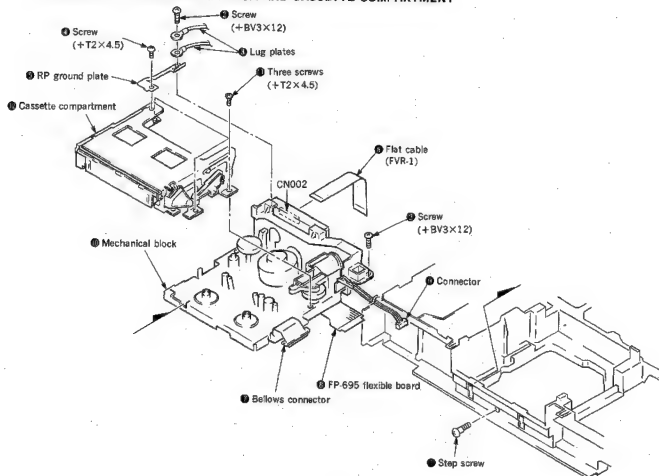


2-9. REMOVAL OF VI-121 BOARD AND MA-173 BOARD

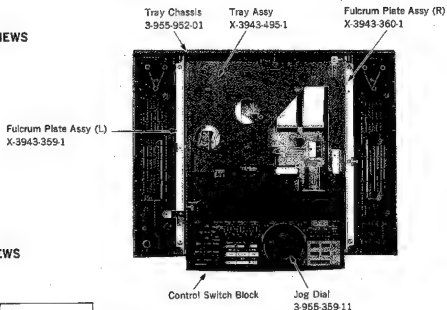
Note: Disconnect the bellows connector and put its bottom face up.



2-10. REMOVAL OF MECHANICAL BLOCK AND CASSETTE COMPARTMENT



2-11. TRAY CHASSIS INTERNAL VIEWS



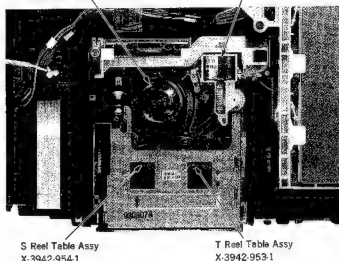
2-12. MECHANICAL INTERNAL VIEWS

—Upper side—

M901

Drum ASSY (DGU-0B0A-R)	A-7048-696-A
Drum upper (DGR-0B0-R)	A-7049-629-A

M903
Cam Motor Assy
X-3942-946-1



—Lower side—

M902

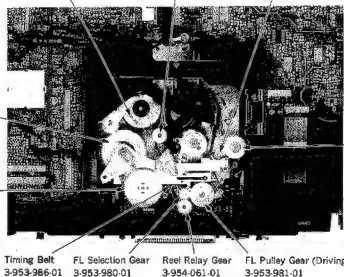
Capstan Motor
8-835-499-01

Belt Pulley Assy
X-3943-016-1

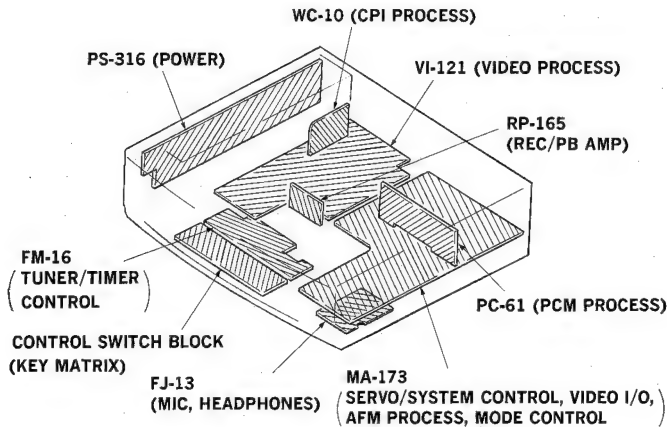
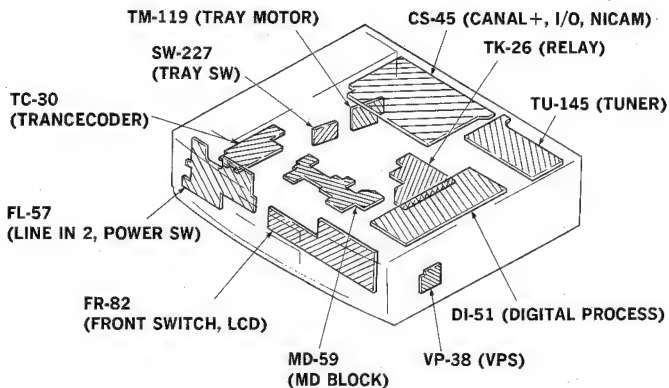
Timing Belt (FL)
3-954-079-01

Main Cam
3-954-050-01

Rotary Switch
1-692-498-11



2-13. CIRCUIT BOARDS LOCATION



SECTION 3 BLOCK DIAGRAMS

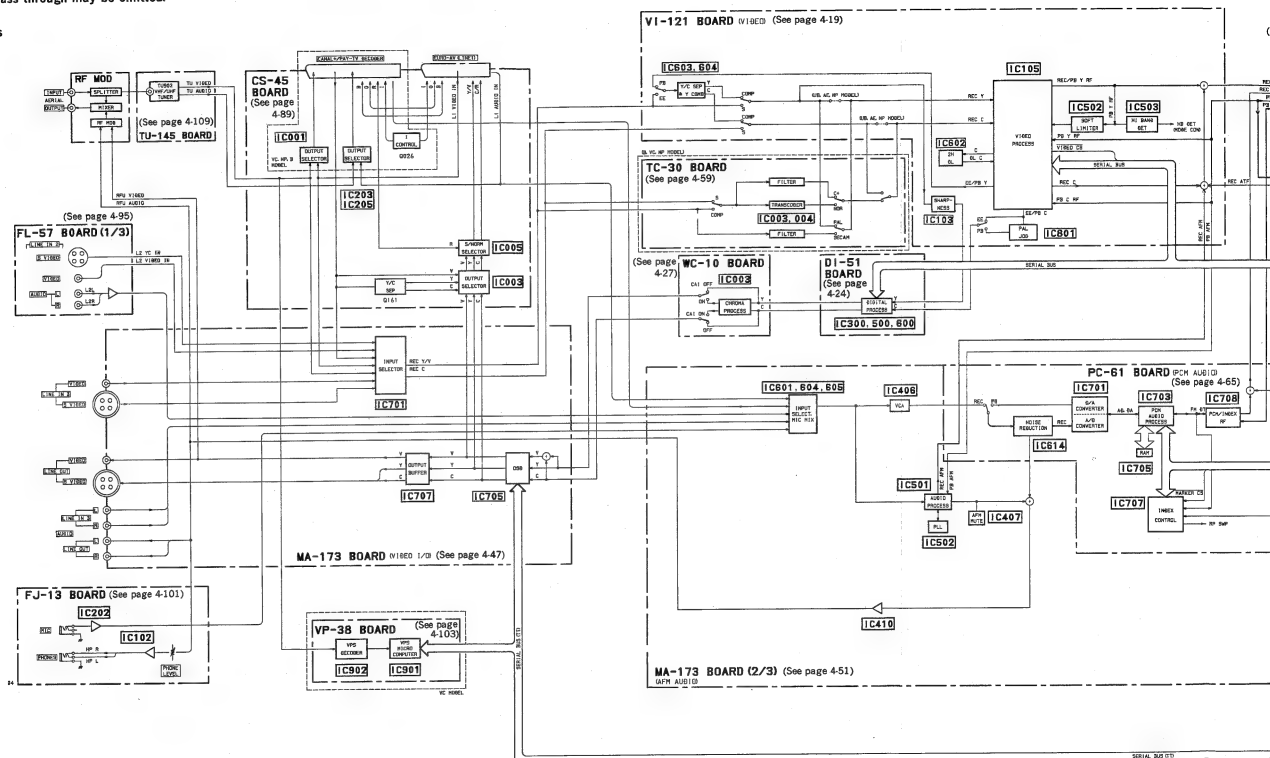
3-1. OVERALL BLOCK DIAGRAM

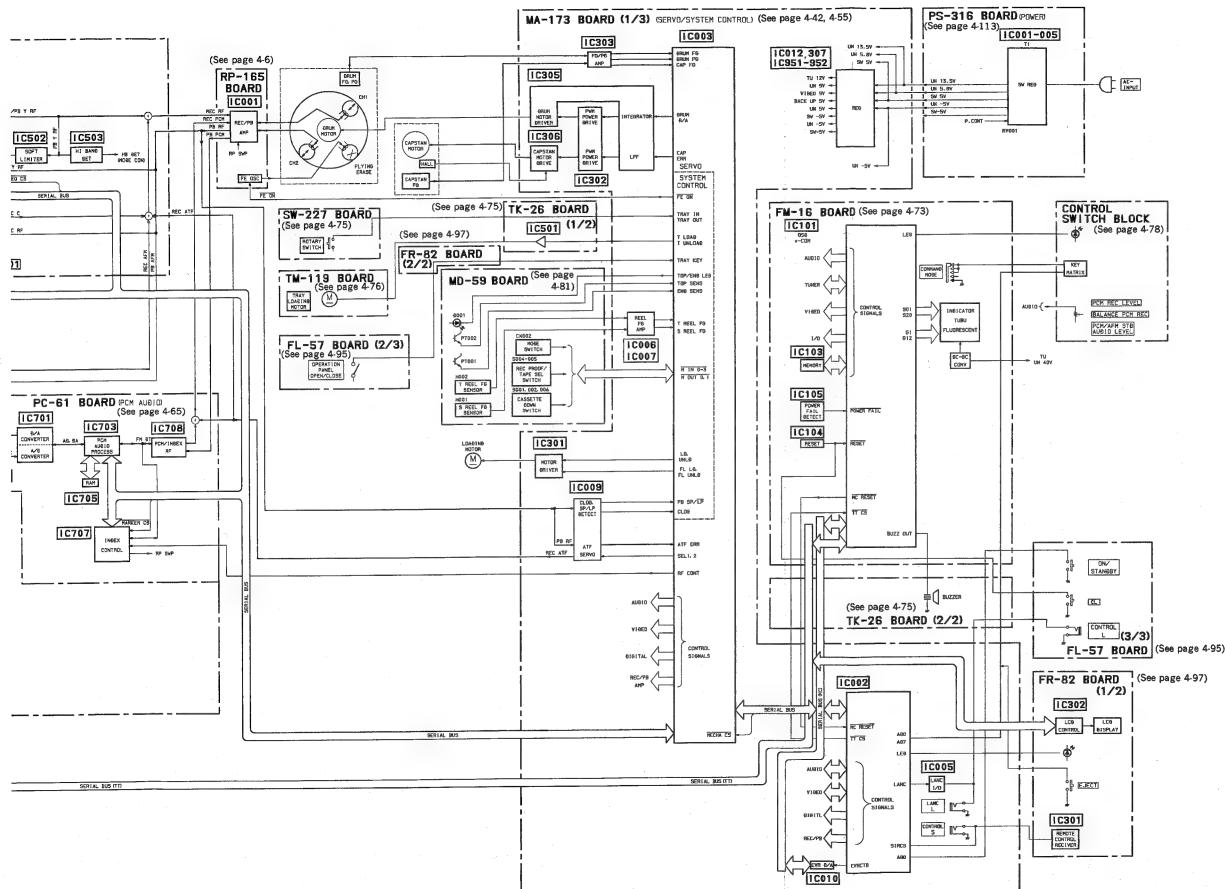
- The boards which signals only pass through may be omitted.

• Common note of block diagrams

Abbreviations

UB : UK
AE : Italian
VC : German
NP : North European
B : French

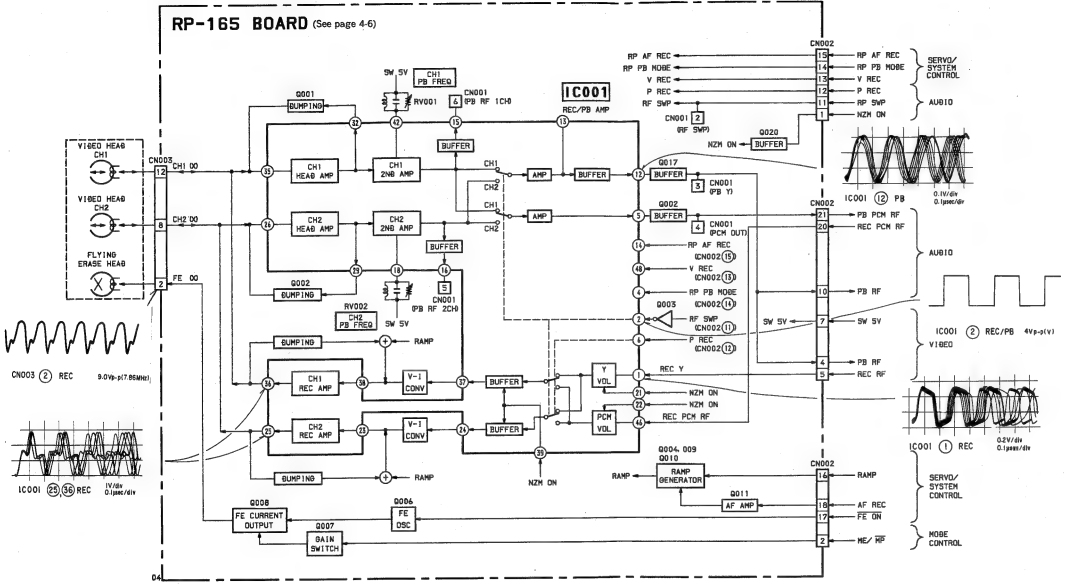




EV-S9000E AE/B/NP/UB/VC

3-2. HEAD AMP BLOCK DIAGRAM

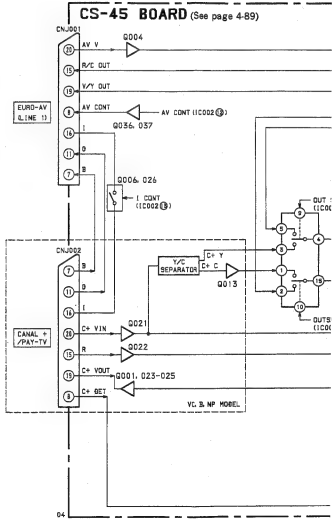
• The boards which signals only pass through may be omitted.



3-3. VIDEO I/O BLOCK DIAGRAM

• The boards which signals only pass through may be omitted.

• Abbreviations
UB:UK
AE:Italian
VC:German
B:French
NP:North Eur



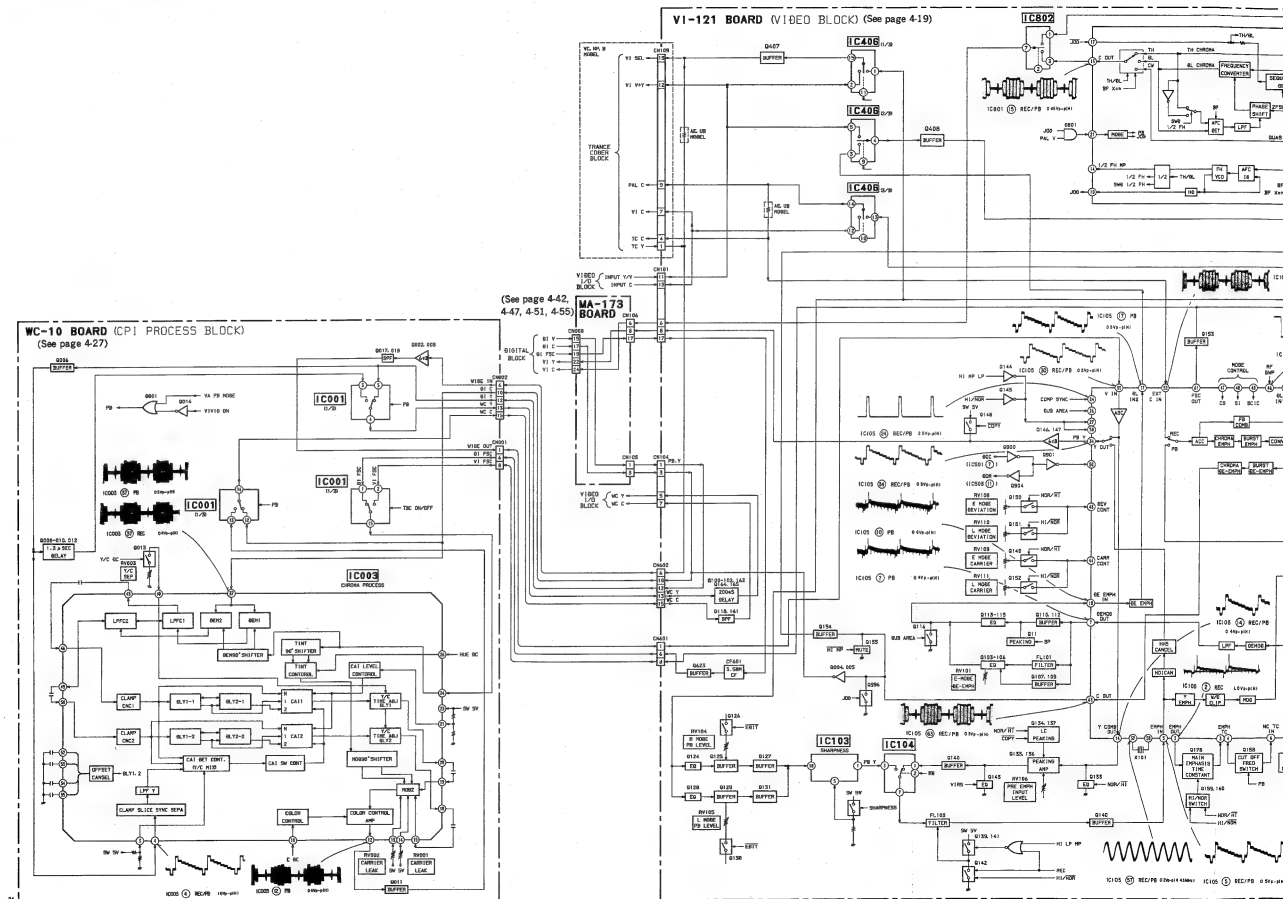
its only pass through may be omitted.

UB:UK
AE:Italian
VC:German
B:French
NP:North European



3-4. VIDEO BLOCK DIAGRAM

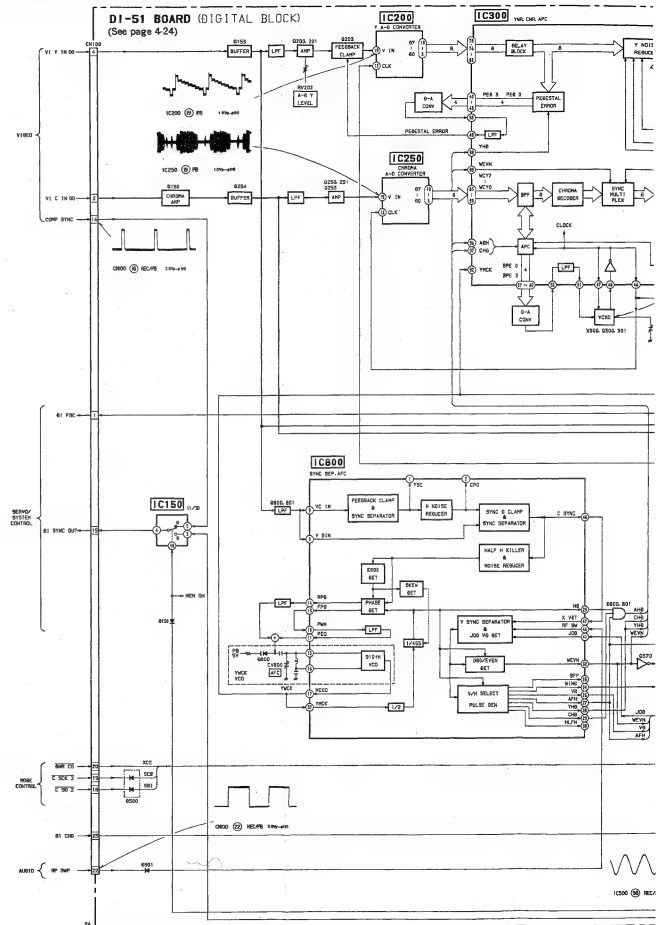
- The boards which signals only pass through may be omitted.

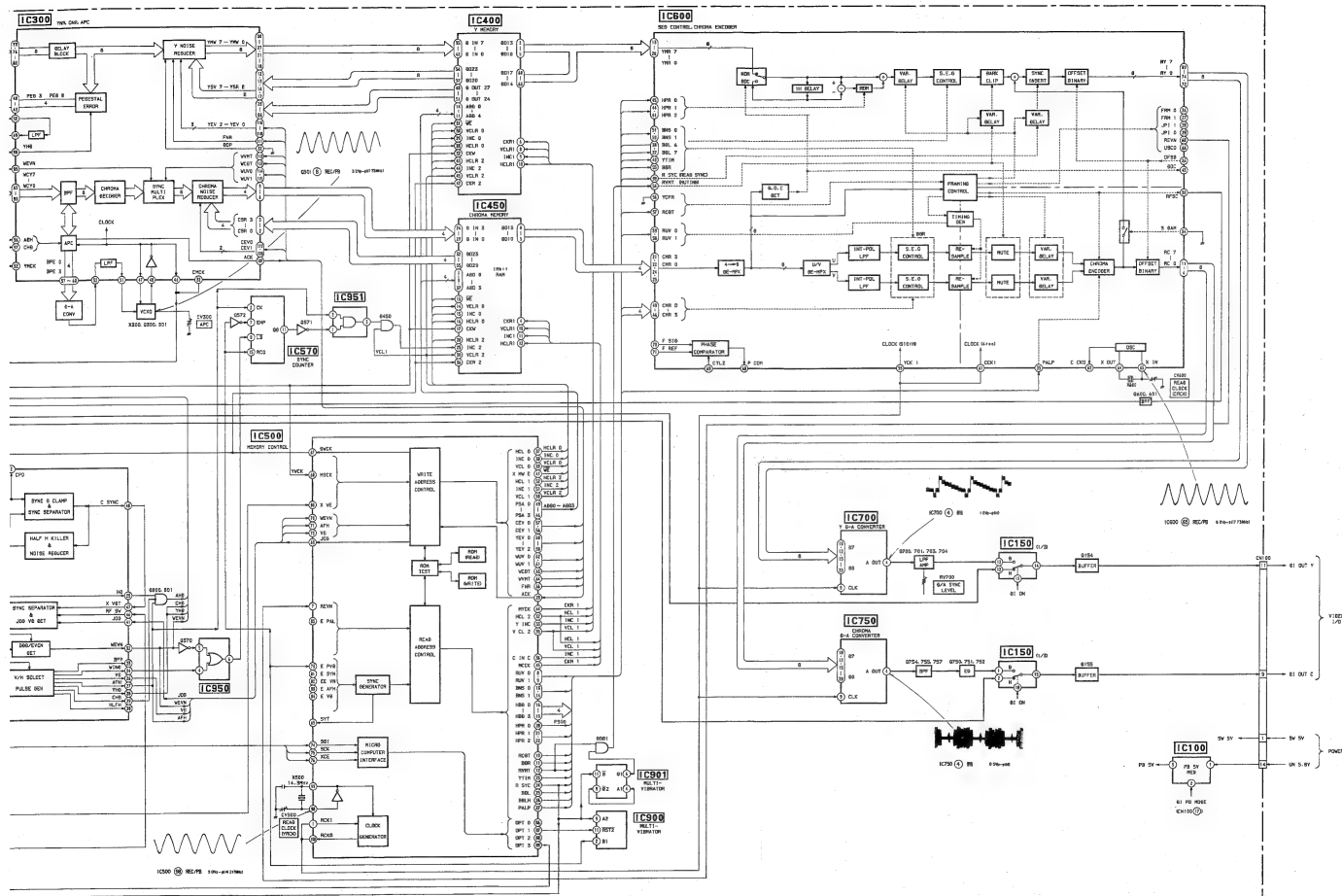


EV-S9000E AE/B/NP/UB/VC

3-5. DIGITAL BLOCK DIAGRAM

• The boards which signals only pass through may be omitted.



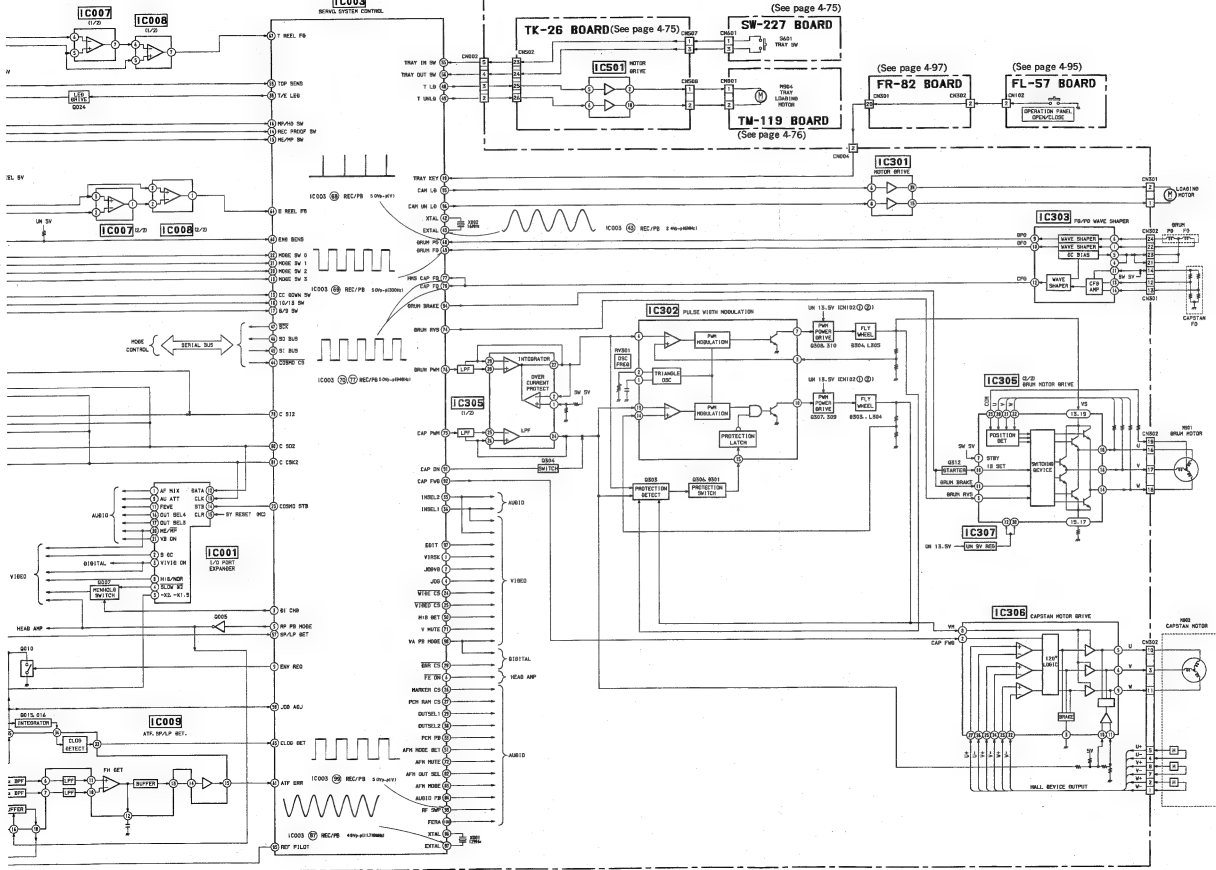


- The boards which signals only pass through may be omitted.



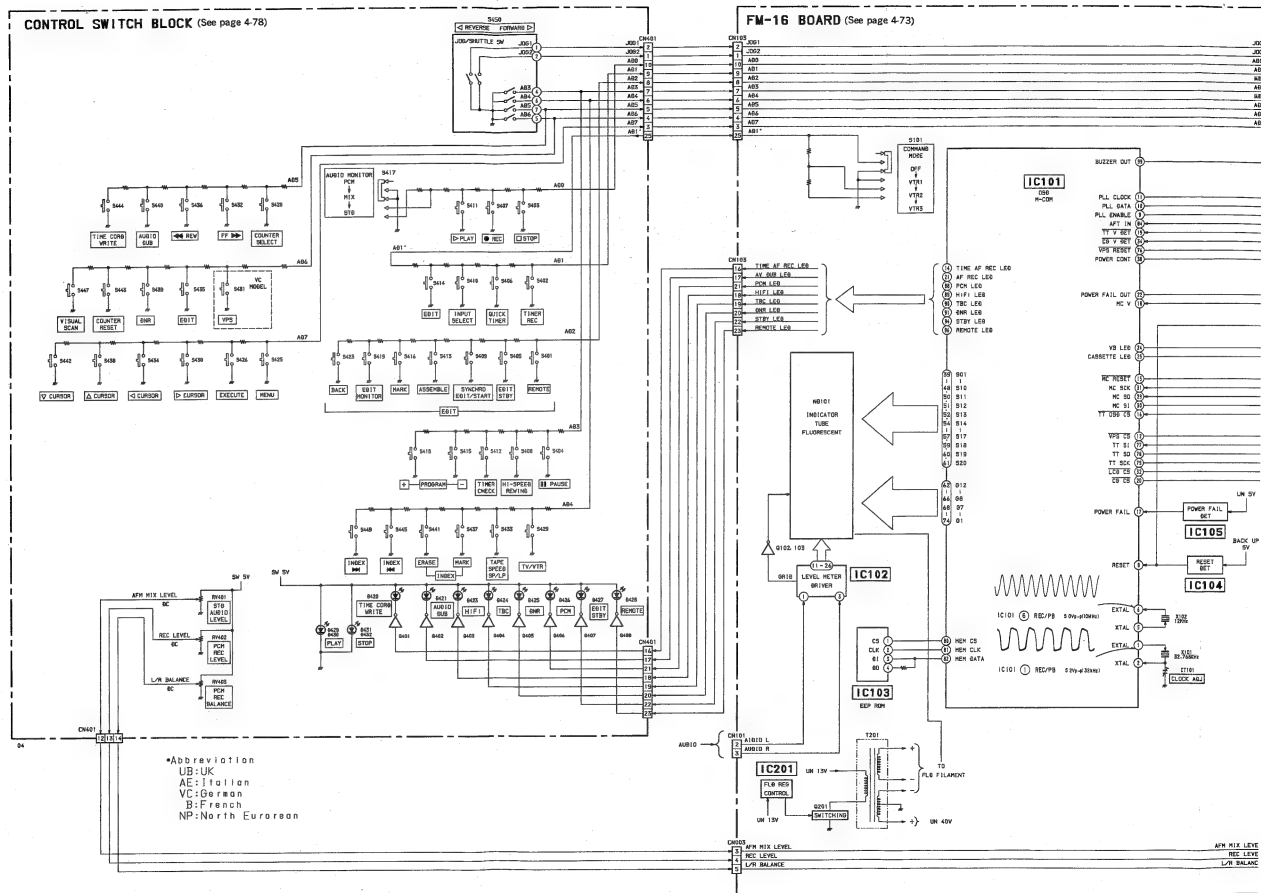


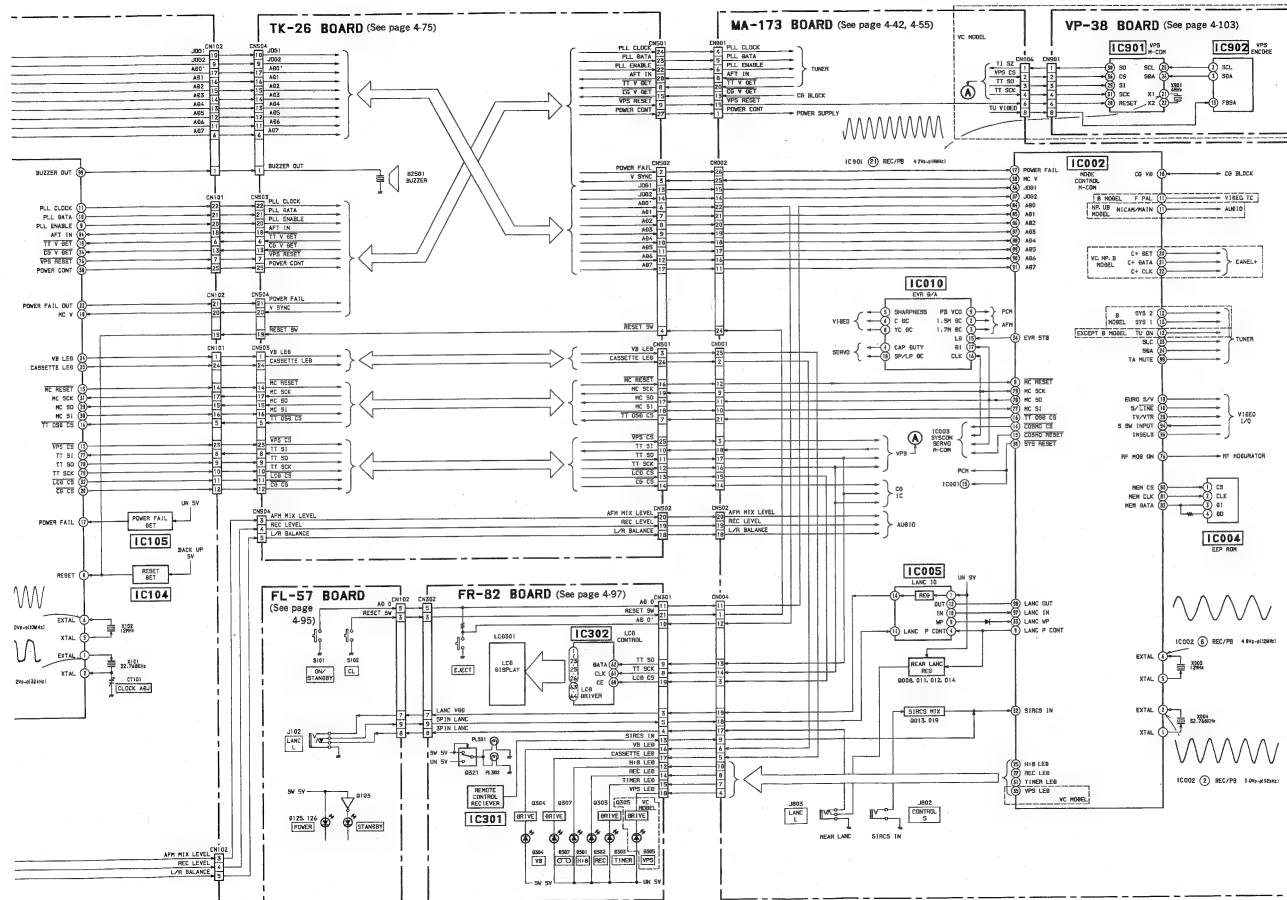
-173 BOARD (See page 4-42, 4-55)



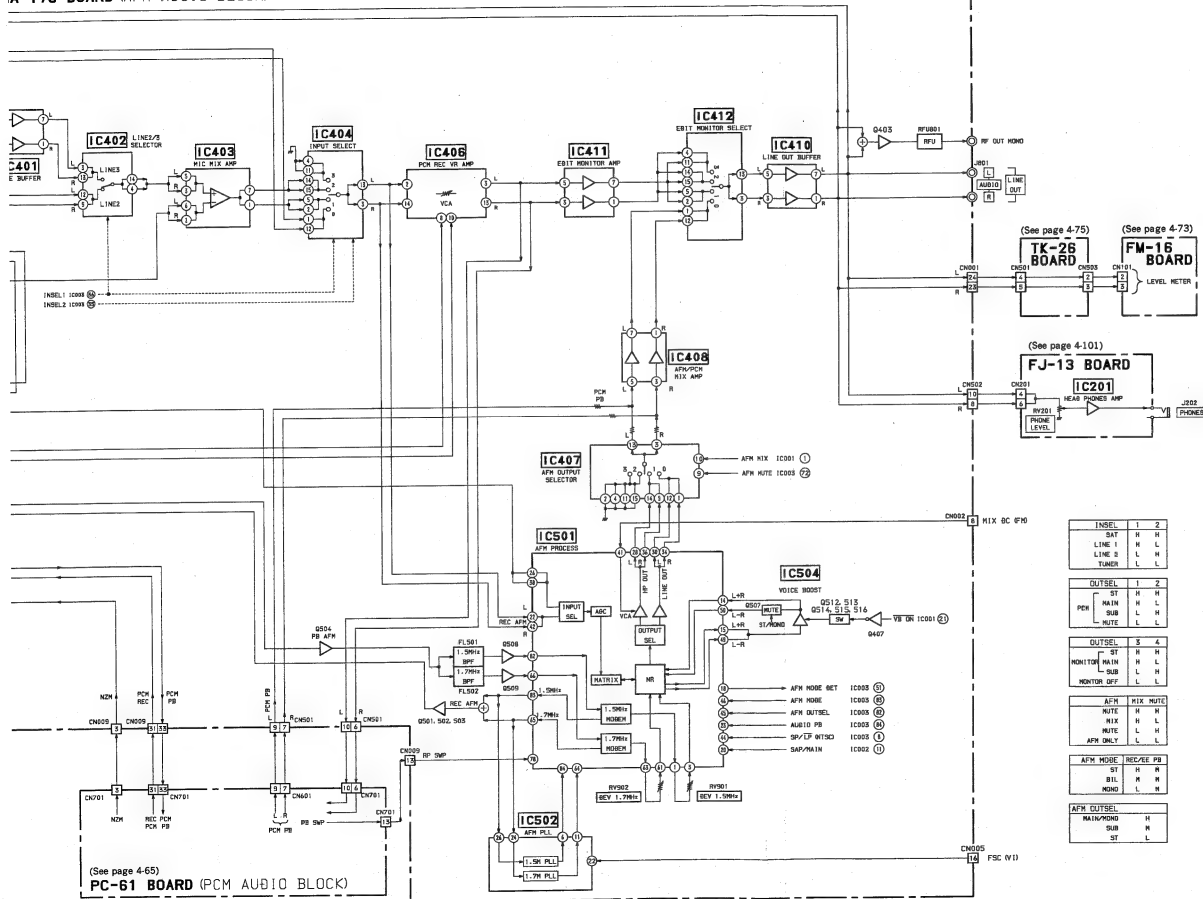
3-8. TIMER, TUNER, MODE CONTROL BLOCK DIAGRAM

- The boards which signals only pass through may be omitted.



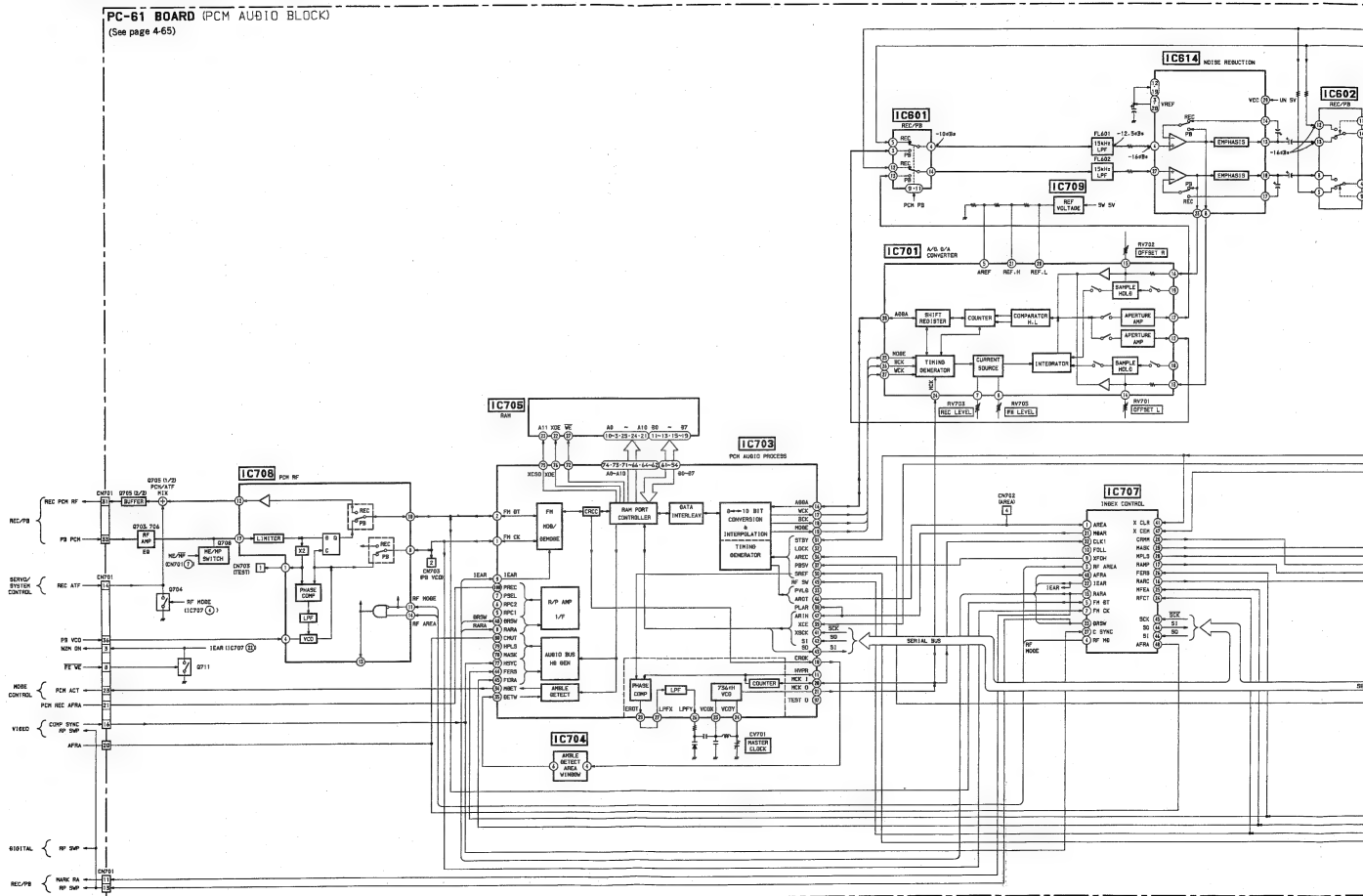


A-173 BOARD (AFM AUDIO BLOCK) (See page 4-51)



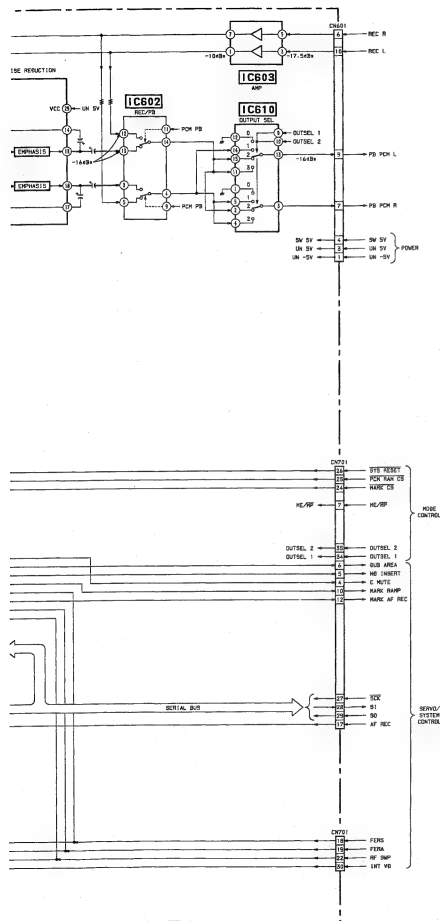
3-10. PCM AUDIO BLOCK DIAGRAM

- The boards which signals only pass through may be omitted.

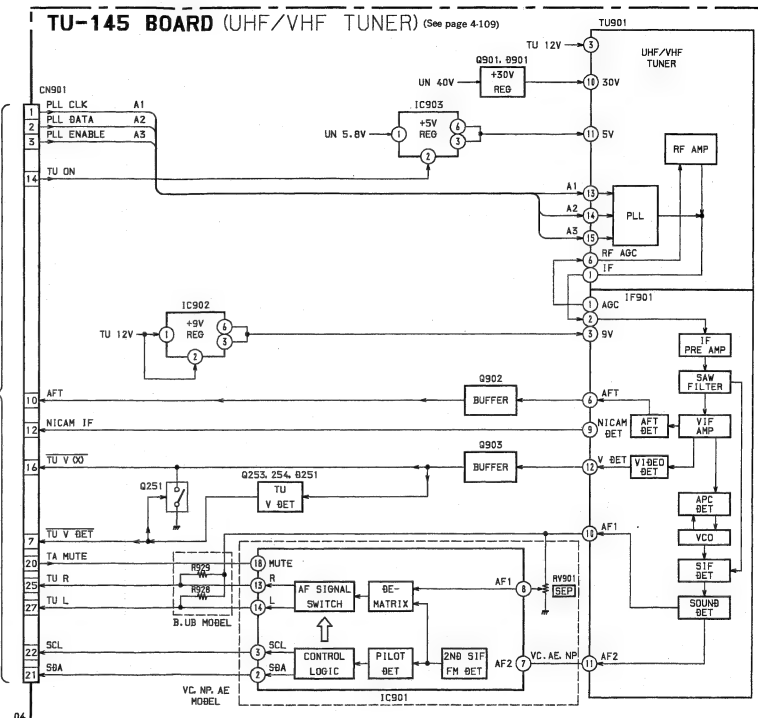


3-11. TUNER BLOCK DIAGRAM

• The boards which signals only pass through may be omitted.



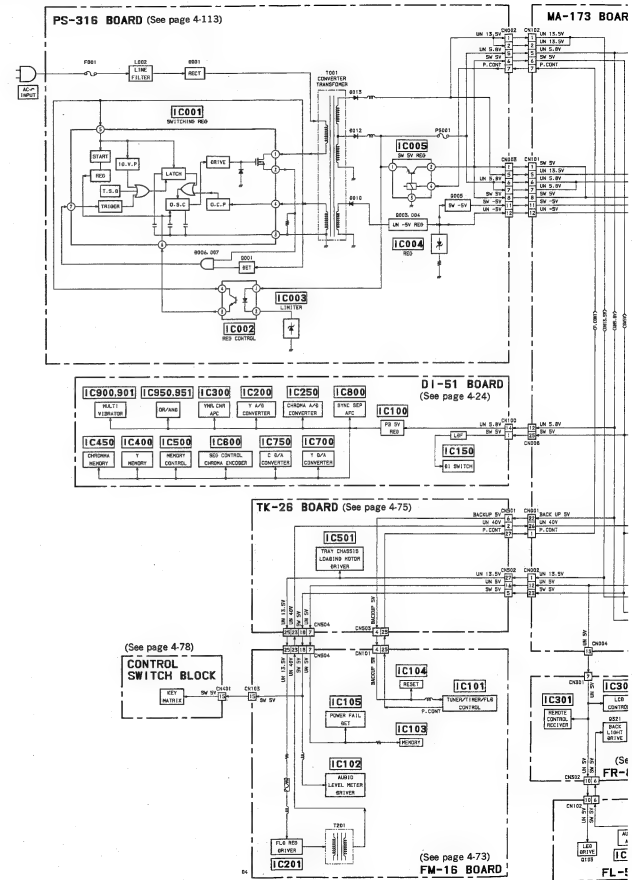
TO
MA-173
BOARD
CN601

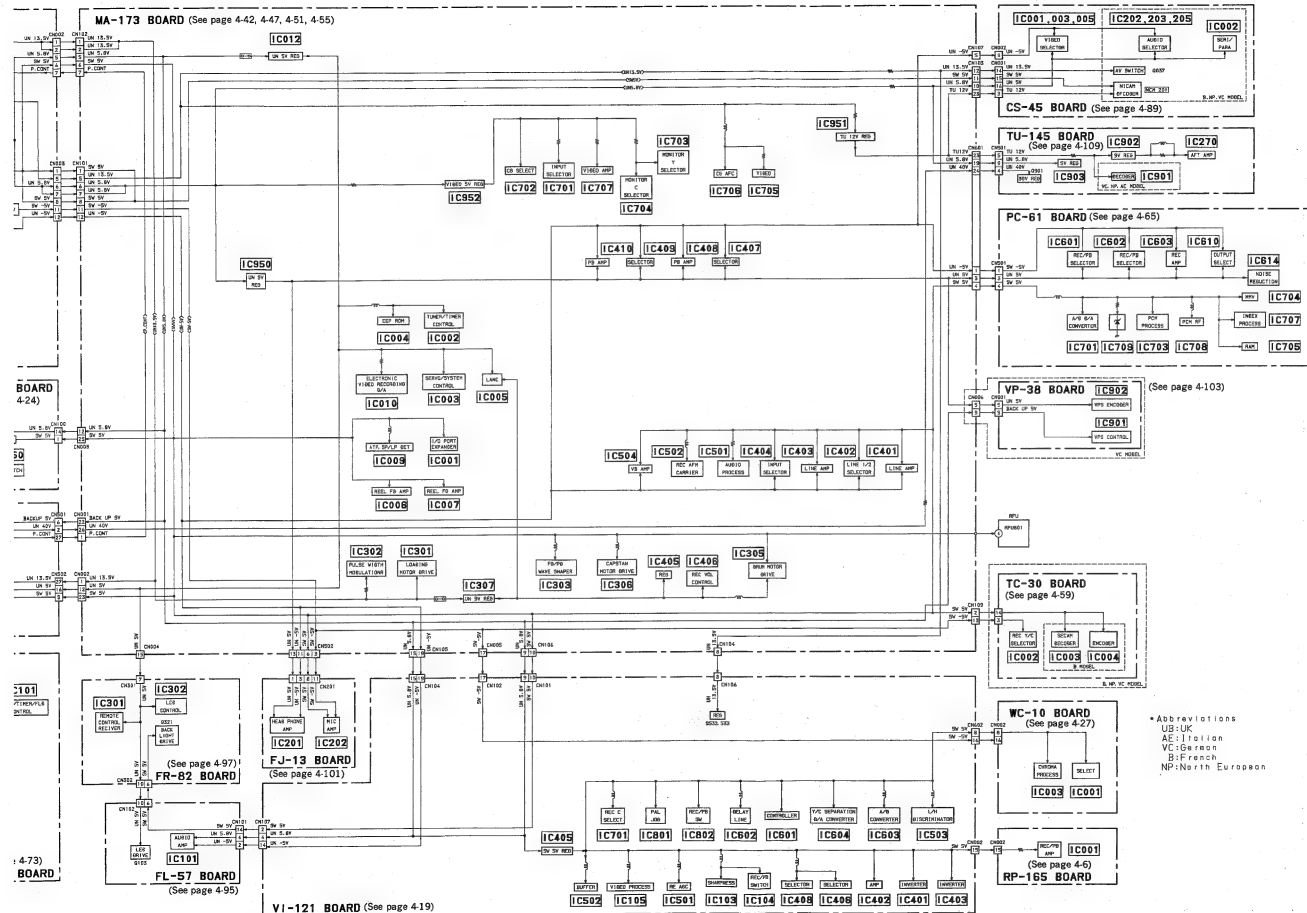


EV-S9000E AE/B/NP/UB/VC

3-12. POWER BLOCK DIAGRAM

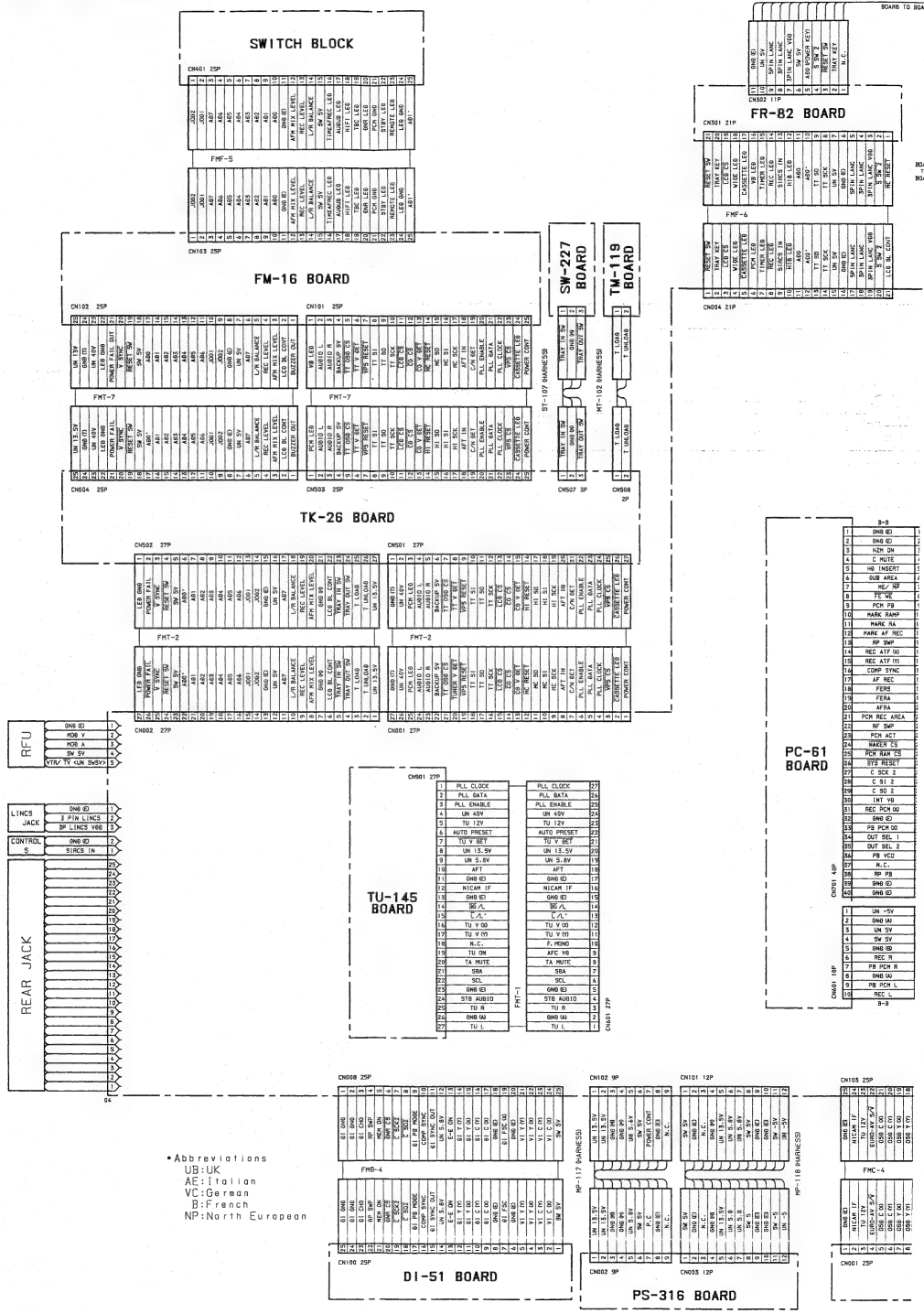
- The boards which signals only pass through may be omitted.



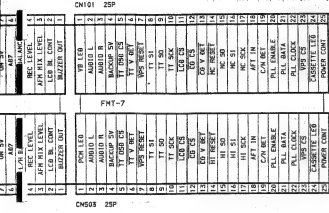
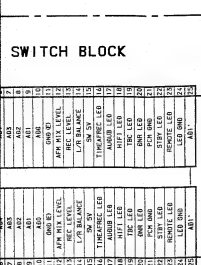


SECTION 4 PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

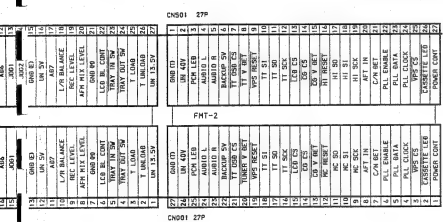
4-1. FRAME SCHEMATIC DIAGRAM



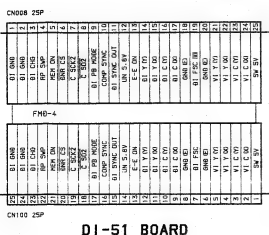
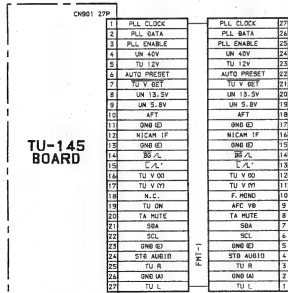
M-16 BOARD



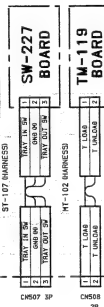
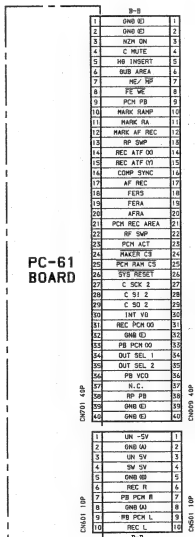
TK-26 BOARD



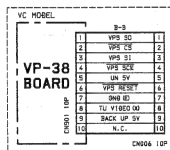
**TU-145
BOARD**



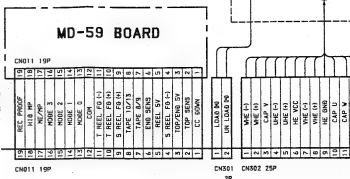
PS-316 BOARD

PC-61
BOARD

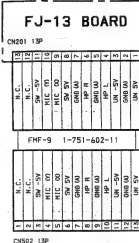
MA-173 BOARD



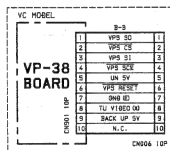
MD-59 BOARD



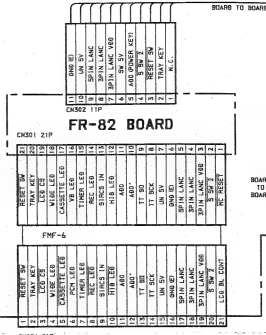
FJ-13 BOARD



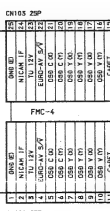
VC MODEL
VP-3
BOARD



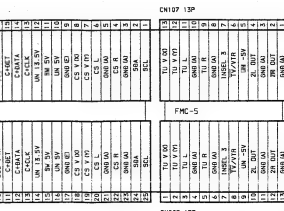
FR-82 BOARD



CN105 250

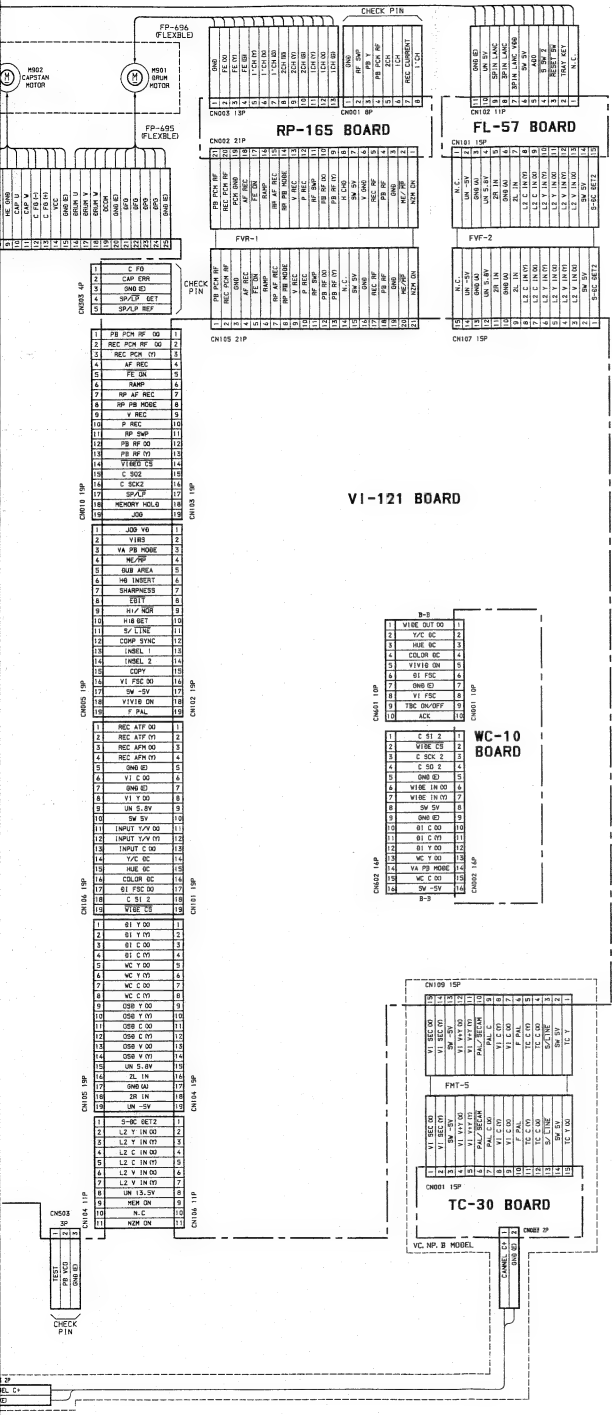


CS-45 BOARD

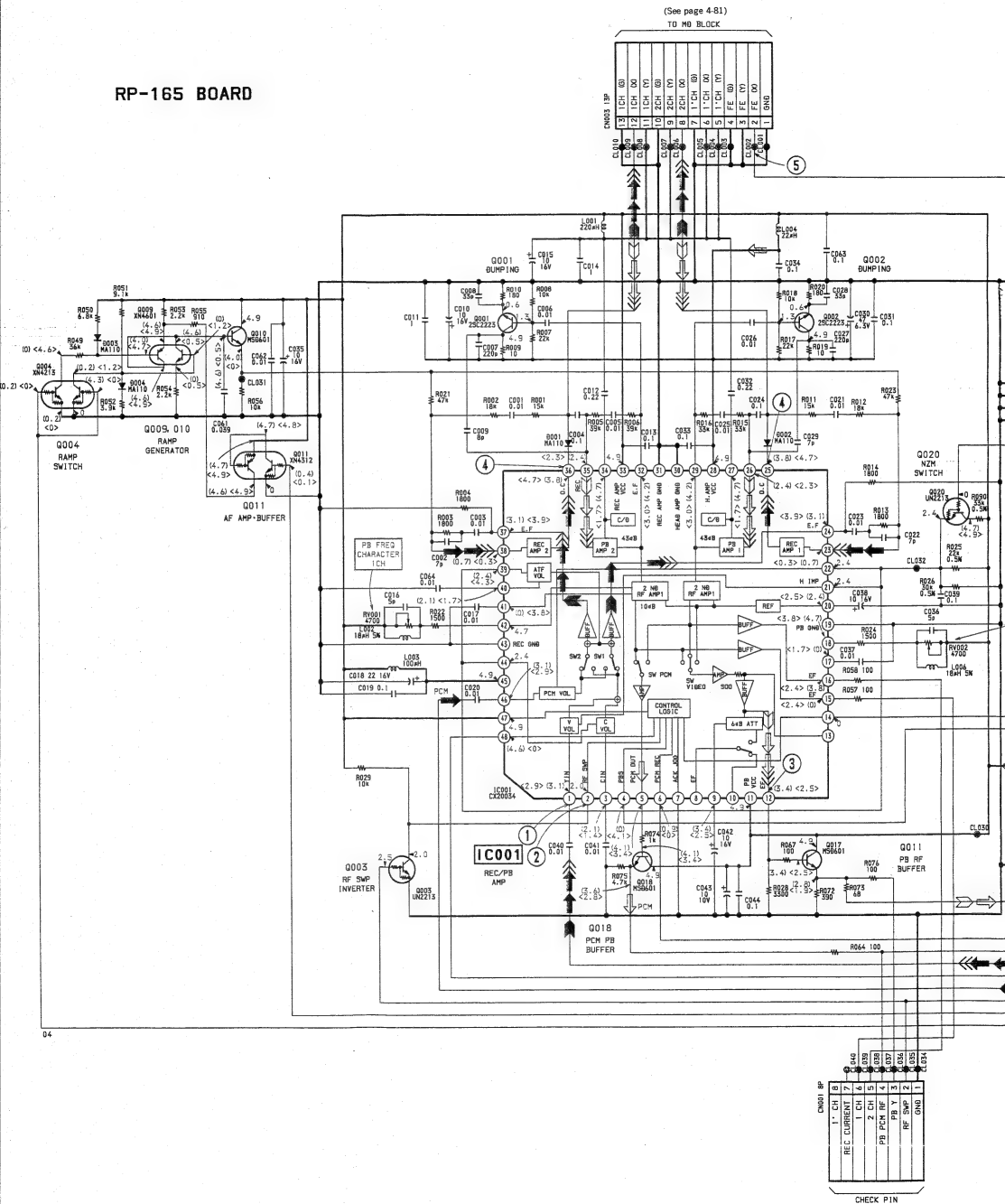


1	CANNEL C+
2	GN0 (E)

16 17 18 19 20 21 22 23



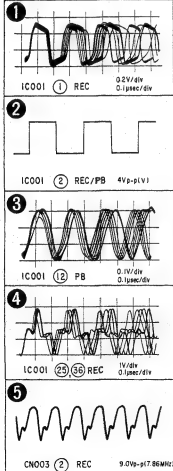
RP-165 BOARD



RP-165 (REC/PB AMP) SCHEMATIC DIAGRAM
—Ref. No. RP-165 BOARD : 1000 series—

RP-165 BOARD

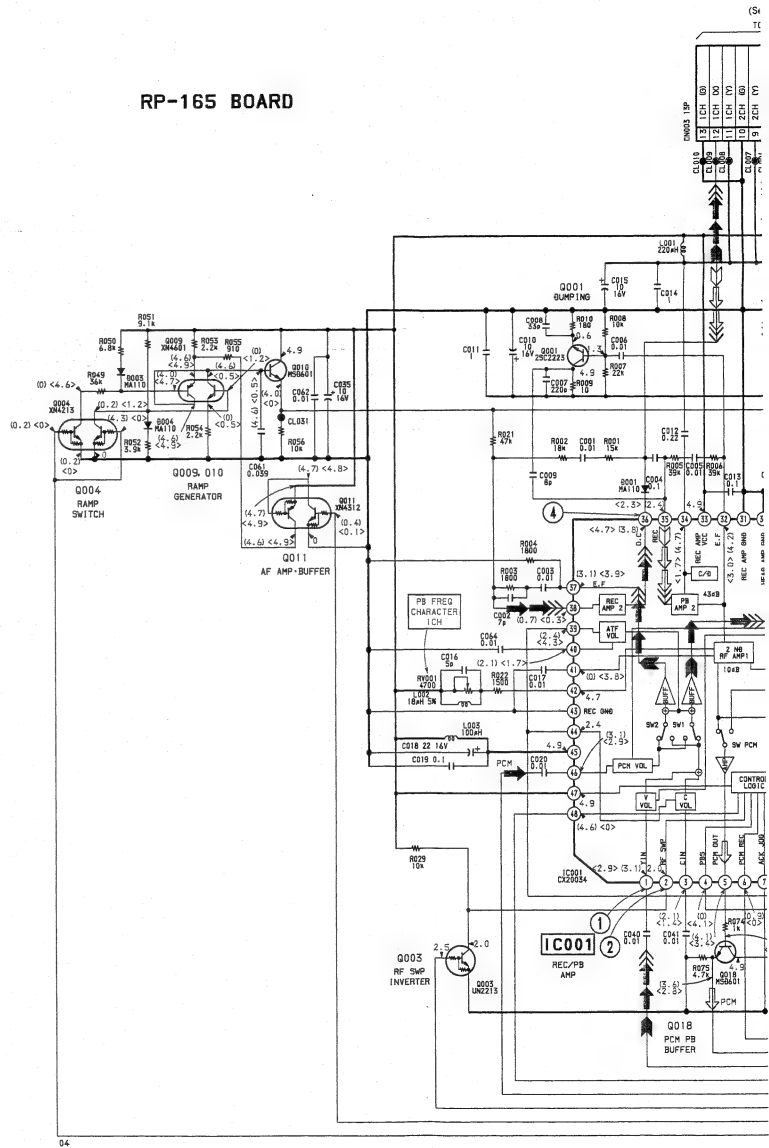
RP-165 BOARD

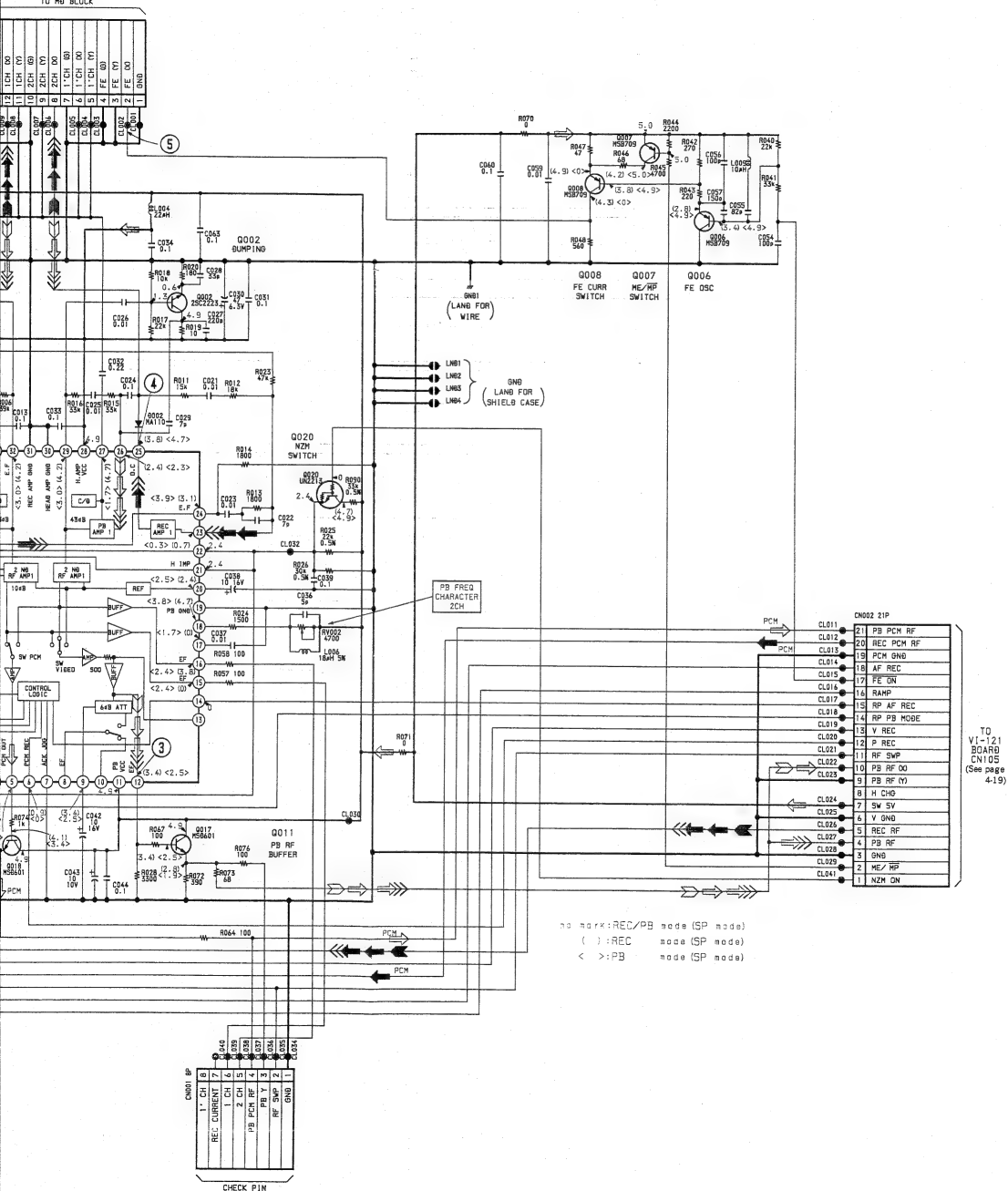


• Signal path

	VIDEO Signal	
	CHROMA	Y/CHROMA
REC	→	→
P	→	→

1 pa	REC	REC/PB	PB
val	→	→	→

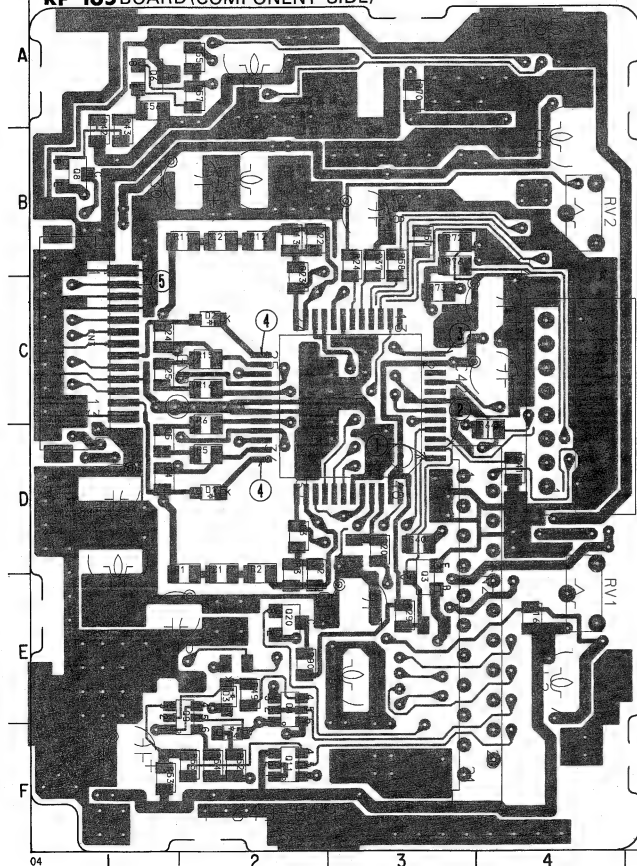




RP-165 (REC/PB AMP) PRINTED WIRING BOARD

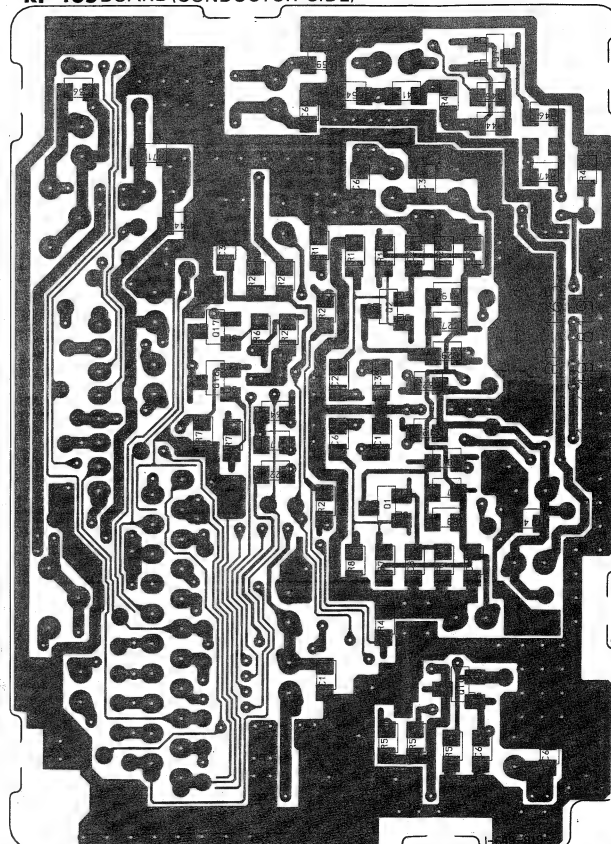
—Ref. No. RP-165 BOARD: 1000 series—

RP-165 BOARD (COMPONENT SIDE)



4-9

RP-165 BOARD (CONDUCTOR SIDE)



4-10

RP-165 BOARD
CN001 C-4
CN002 E-4
CN003 C-1

DO01 D-2
DO02 C-2
DO03 E-2
DO04 F-2

IC001 C-3

0001 D-8

0002 C-8

0003 E-3

0004 E-2

0005 A-1

0007 A-8

0008 B-1

0009 E-2

0010 E-8

0011 F-2

0017 C-6

0018 D-6

0020 E-2

PS-316 (POWER)

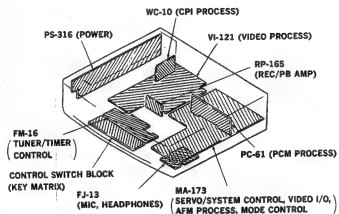
FM-16
(TUNER/TIMER
CONTROL)

CONTROL SWITCH BLOCK
(KEY MATRIX)

FJ-13
(MIC, HEA)

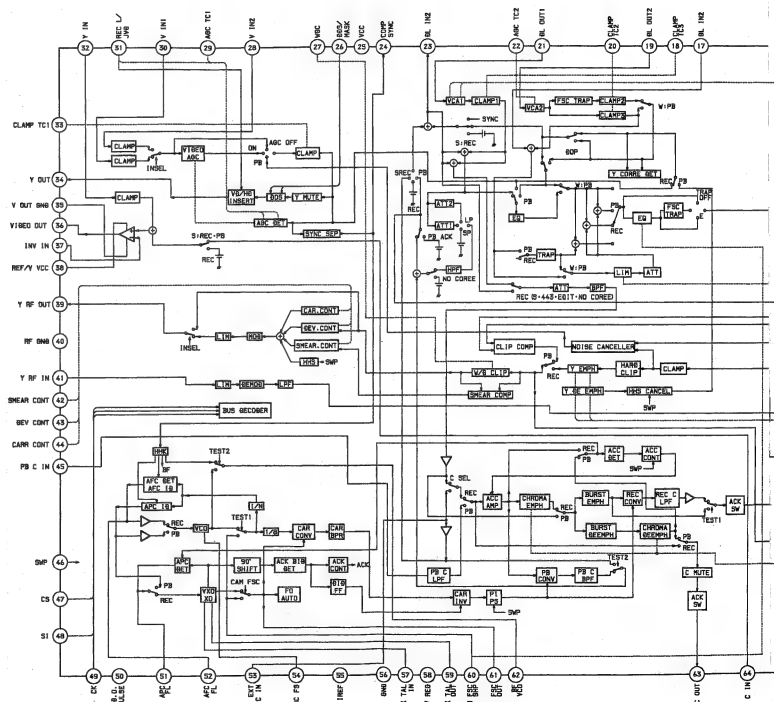
11

RP-165 BOARD	
CN001	C-4
CN002	E-4
CN003	C-1
D001	D-2
D002	C-2
D003	E-2
D004	F-2
IC001	C-3
Q001	D-8
Q002	C-8
Q003	E-3
Q004	E-2
Q006	A-1
Q007	A-8
Q008	B-1
Q009	E-2
Q010	E-8
Q011	F-2
Q017	C-6
Q018	C-6
Q020	E-2

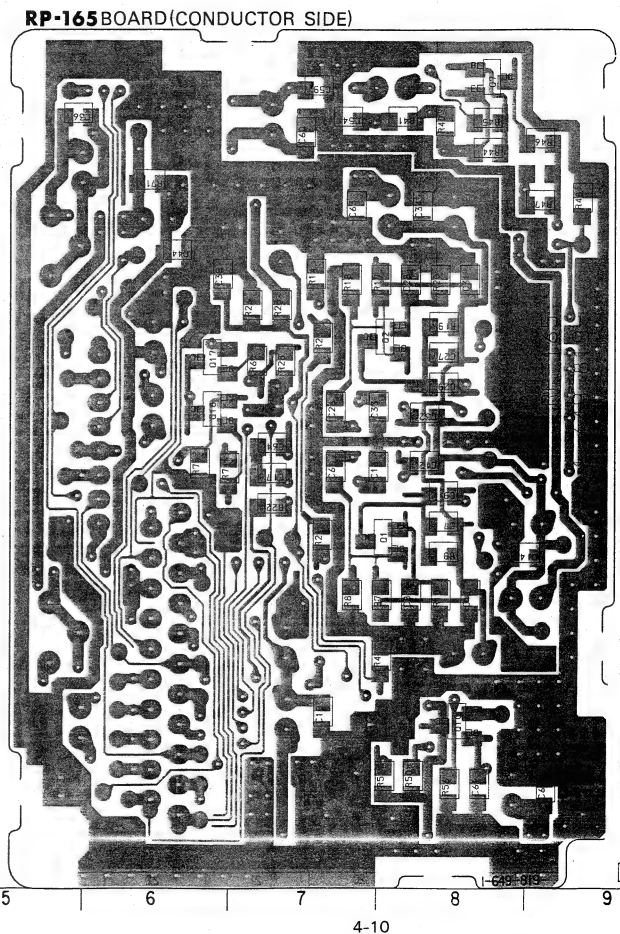
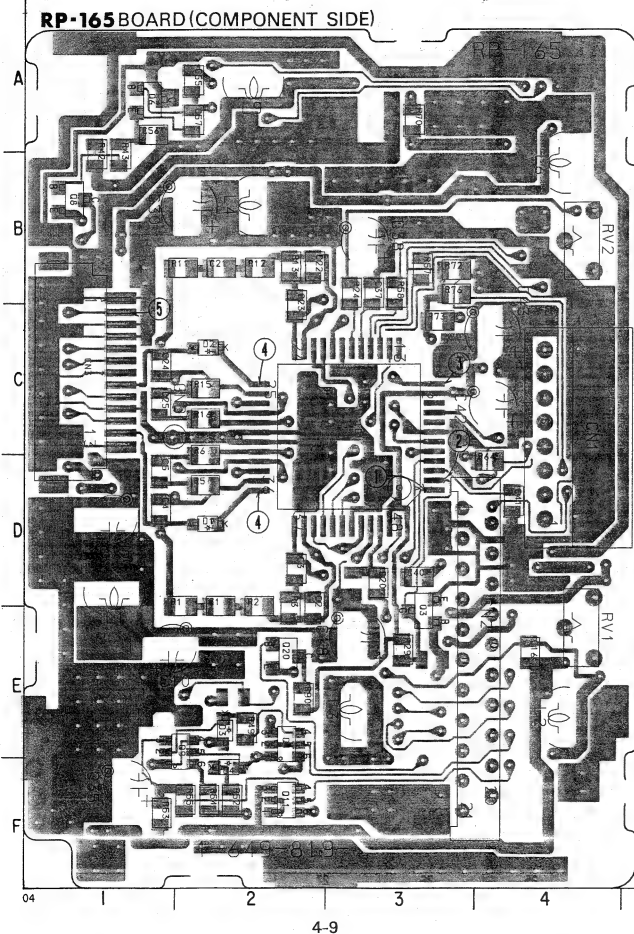


• VI-121 BOARD IC BLOCK DIAGRAMS

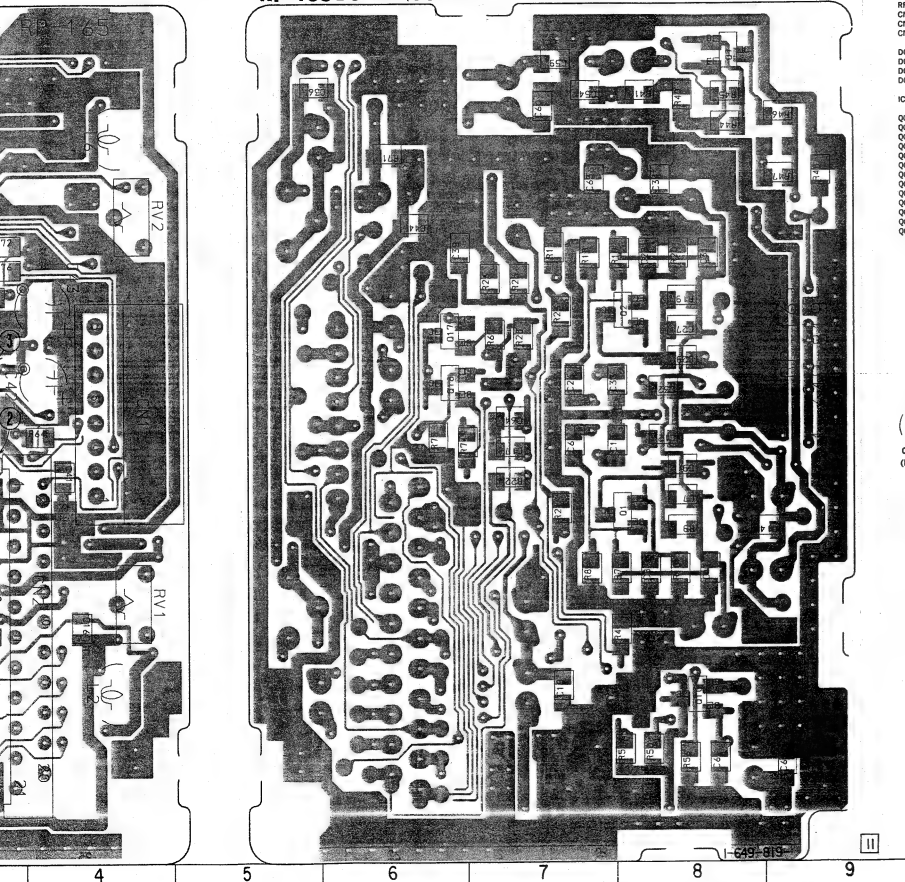
IC105 CXA1810
VIDEO PROCESS



RP-165 (REC/PB AMP) PRINTED WIRING BOARD
 —Ref. No. RP-165 BOARD: 1000 series—



RP-165 BOARD (CONDUCTOR SIDE)



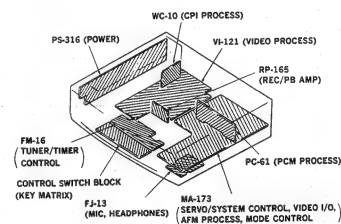
RP-165 BOARD

CH001 C-4
CH002 E-4
CH003 C-1

D001 D-2
D002 C-2
D003 E-2
D004 F-2

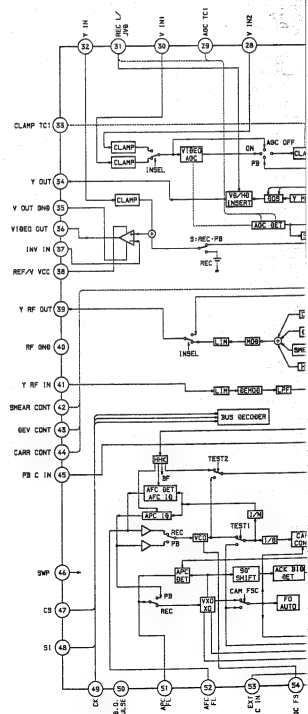
IC001 C-3

Q001 D-8
Q002 C-8
Q003 E-3
Q004 E-2
Q005 A-1
Q007 A-8
Q008 B-1
Q009 E-2
Q010 E-8
Q011 F-2
Q017 C-5
Q018 C-6
Q020 E-2



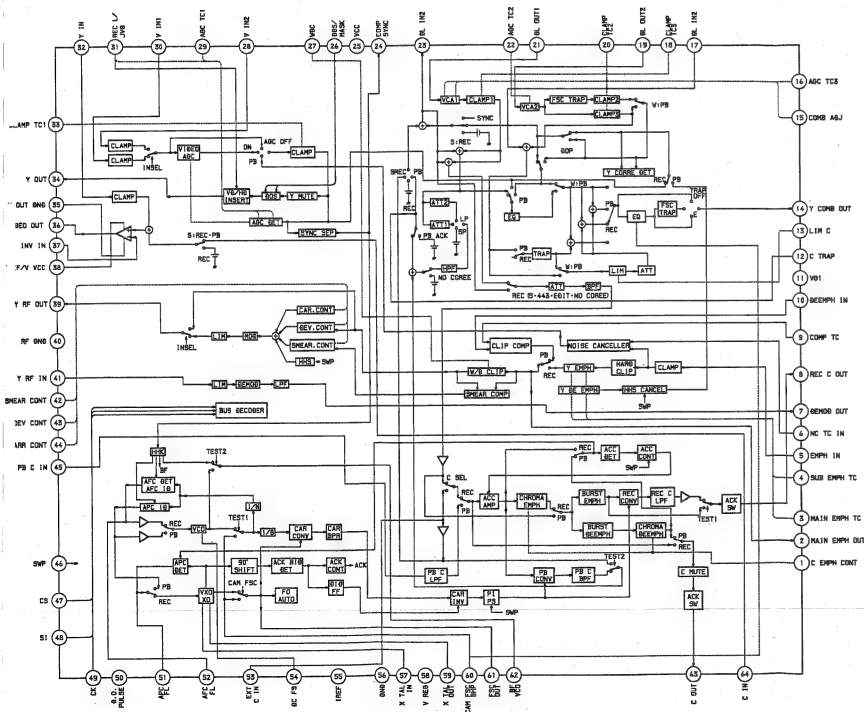
• VI-121 BOARD IC BLOCK DIAGRAMS

IC105 CXA1810
VIDEO PROCESS

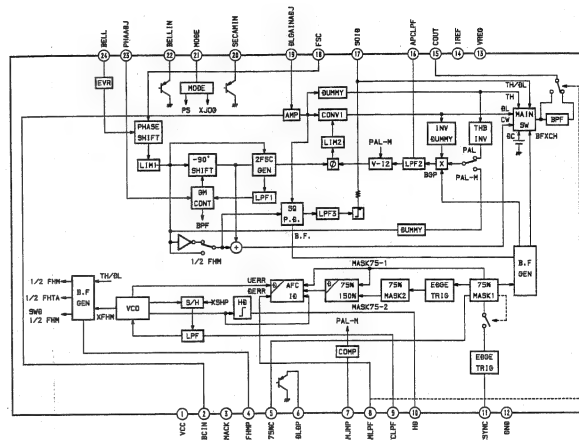


• VI-121 BOARD IC BLOCK DIAGRAMS

IC105 CX1810 VIDEO PROCESS

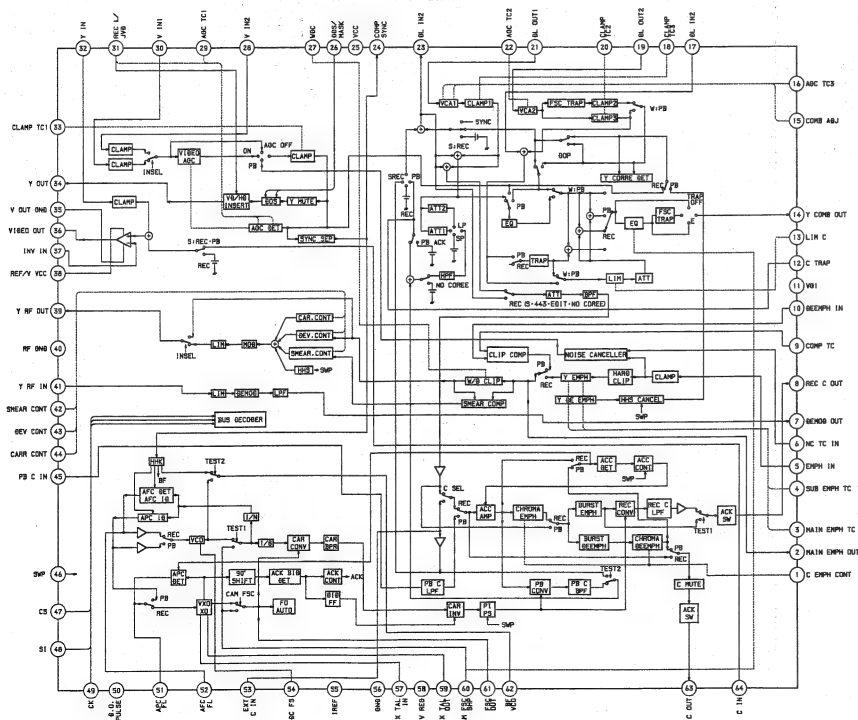


IC801 M52358FP CHROMA JOG PROCESS

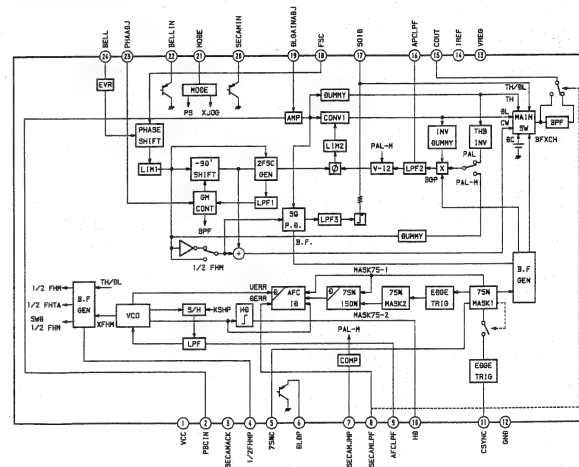


• VI-121 BOARD IC BLOCK DIAGRAMS

IC105 CXA1810
VIDEO PROCESS

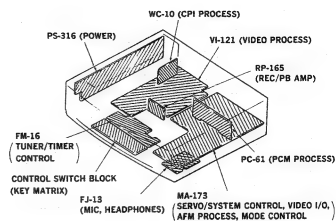


IC801 M52358FP
CHROMA JOG PROCESS



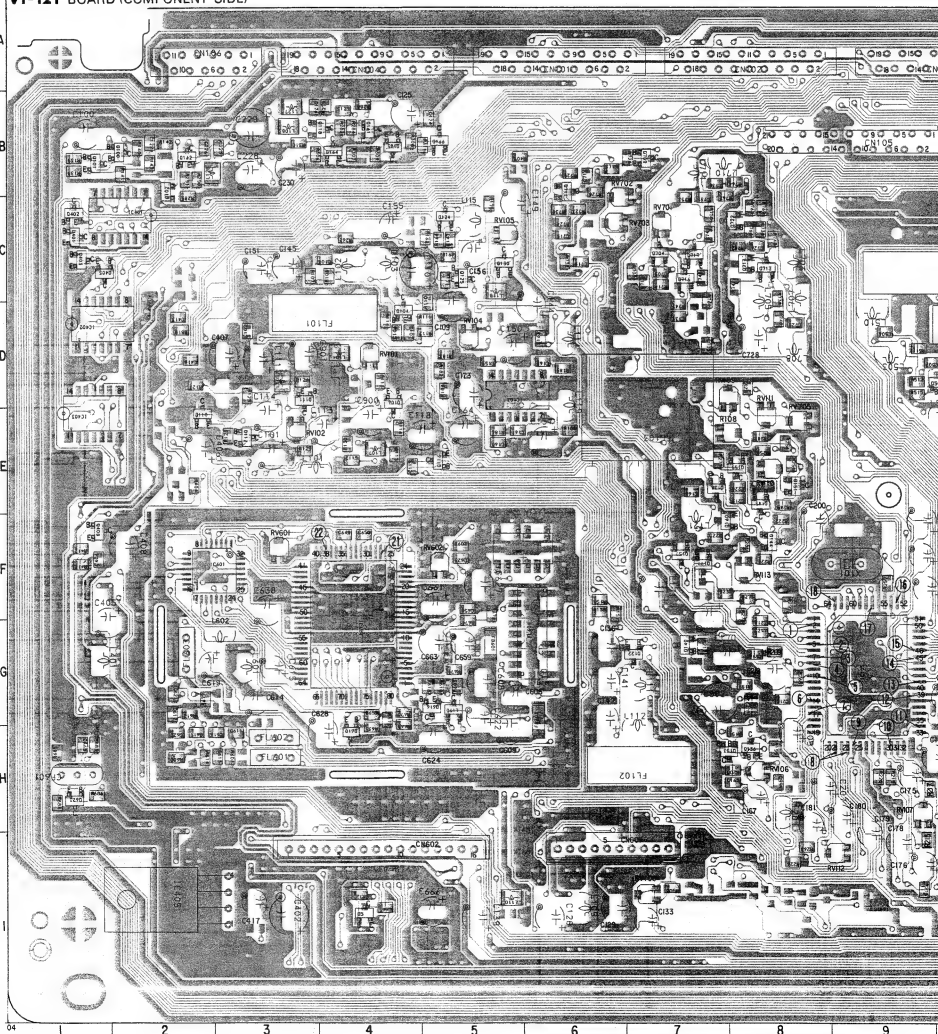
VI-121 (VIDEO PROCESS) PRINTED WIRING BOARD

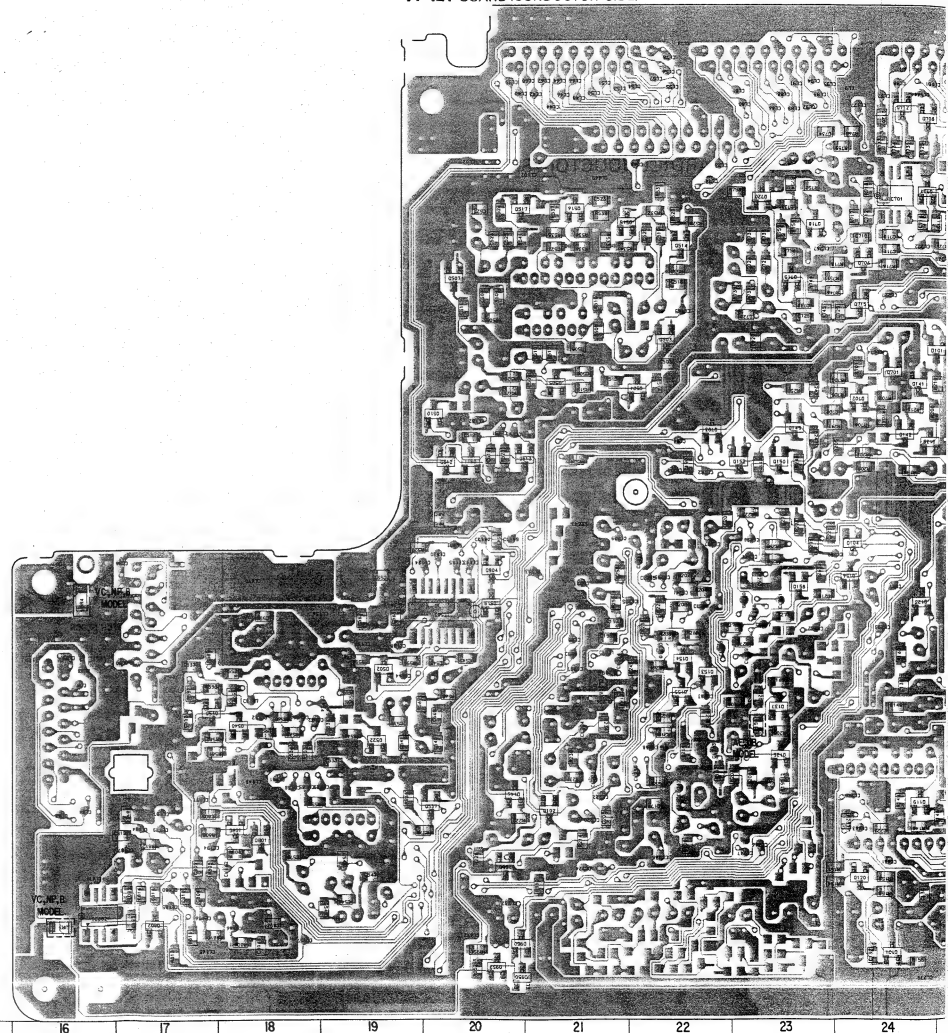
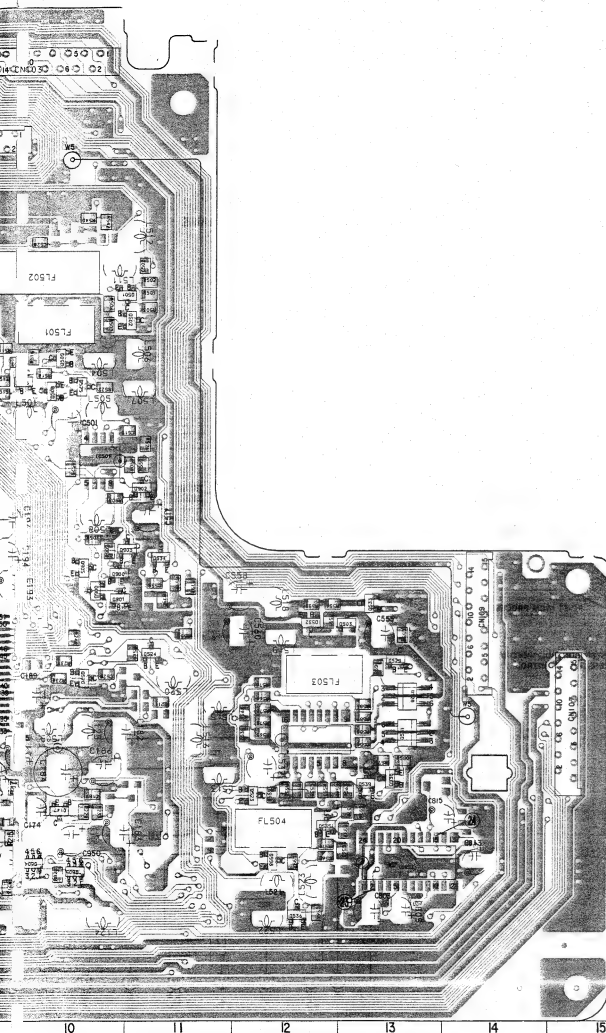
—Ref. No. VI-121 BOARD: 2000 series—

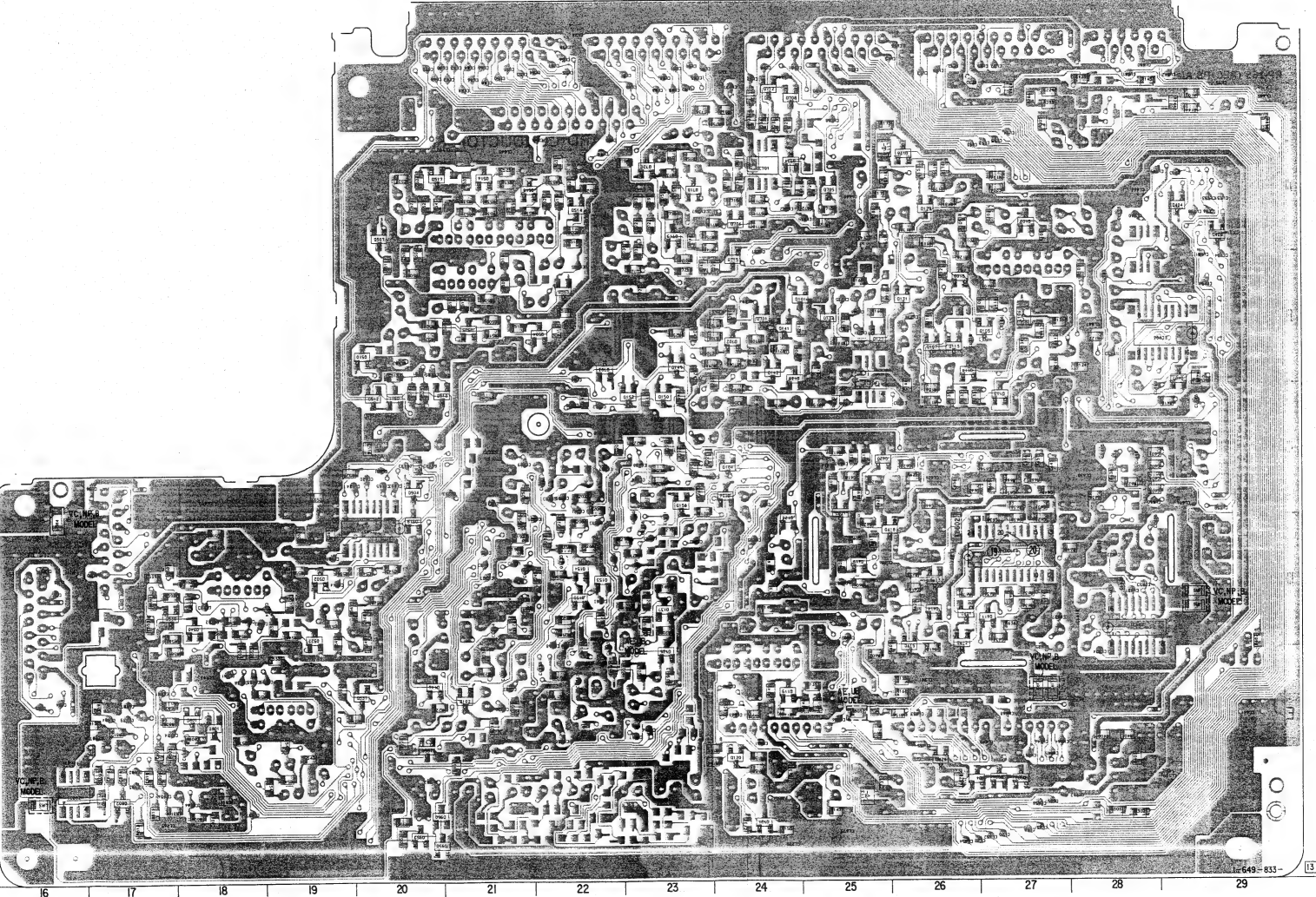


VI-121 BOARD (COMPONENT SIDE)

CN101	BOARD	Q407	E29
CN102	A-8	Q408	F-11
CN103	A-10	Q501	C-11
CN104	A-4	Q502	C-11
CN105	B-9	Q503	D-22
CN106	A-2	Q504	D-22
CN107	0-15	Q505	D-10
CN109	F-14	Q506	D-10
CN101	1-7	Q507	C-20
CN602	1-4	Q508	D-10
D101	D-24	Q510	E-20
D102	H-21	Q511	E-20
D104	F-24	Q512	E-20
D502	0-19	Q513	E-20
D503	0-19	Q514	C-22
D601	0-26	Q515	C-21
D901	H-18	Q516	C-21
D802	1-21	Q517	C-20
D900	F-10	Q519	F-20
		Q520	G-10
IC103	D-5	Q522	H-19
IC102	A-25	Q523	H-12
IC105	0-9	Q524	G-11
IC401	C-2	Q525	D-10
IC402	C-1	Q528	G-13
IC403	E-1	Q529	G-13
IC405	1-2	Q530	D-17
IC406	D-29	Q531	H-13
IC501	E-10	Q532	G-12
IC502	H-12	Q533	F-13
IC503	F-20	Q534	F-11
IC504	E-2	Q535	H-12
IC602	G-28	Q536	I-12
IC603	G-27	Q537	H-20
IC604	D-4	Q538	H-13
IC701	B-24	Q539	H-13
IC801	1-13	Q540	H-18
IC802	1-16	Q610	H-4
		Q611	G-27
Q004	1-26	Q612	H-26
Q005	J-4	Q613	G-26
Q100	B-2	Q614	G-26
Q101	B-1	Q615	G-26
Q102	H-21	Q616	G-5
Q103	C-27	Q617	G-5
Q104	D-4	Q618	F-25
Q105	C-27	Q619	G-25
Q106	D-4	Q620	F-25
Q107	E-26	Q621	F-25
Q109	D-26	Q623	H-1
Q110	E-2	Q624	I-26
Q111	D-3	Q701	C-24
Q112	E-3	Q702	D-24
Q113	E-27	Q703	E-22
Q114	E-26	Q704	D-7
Q115	D-26	Q705	C-25
Q116	E-3	Q706	C-24
Q118	B-4	Q707	B-24
Q119	H-24	Q708	B-24
Q120	1-24	Q709	B-7
Q121	1-24	Q711	B-6
Q122	1-22	Q712	B-24
Q123	F-24	Q713	C-8
Q124	E-3	Q714	B-8
Q125	0-5	Q715	C-24
Q127	D-25	Q716	D-7
Q128	D-25	Q717	D-7
Q129	C-26	Q718	B-23
Q130	C-26	Q719	B-23
Q131	E-26	Q720	B-23
Q132	D-25	Q722	C-8
Q133	H-8	Q801	H-8
Q135	G-23	Q802	I-17
Q136	H-8	Q804	I-10
Q137	C-23	Q805	I-10
Q138	D-26	Q806	I-10
Q139	E-24	Q901	F-10
Q140	G-7	Q902	F-11
Q141	E-24	Q903	H-1
Q142	E-24	Q904	F-20
Q144	F-8	Q907	F-10
Q145	E-8	Q996	I-27
Q146	H-20	Q998	I-12
Q147	H-10	Q999	I-27
Q149	E-23		
Q150	E-23		
Q151	E-8		
Q152	E-23		
Q153	C-23		
Q154	G-22		
Q155	G-22		
Q156	F-24		
Q157	F-7		
Q158	F-23		
Q159	E-8		
Q160	F-7		
Q161	B-4		
Q162	B-2		
Q164	B-4		
Q165	B-4		
Q166	C-5		
Q177	F-7		
Q401	C-1		
Q402	C-1		
Q403	C-1		
Q404	C-29		
Q405	C-1		
Q406	C-29		



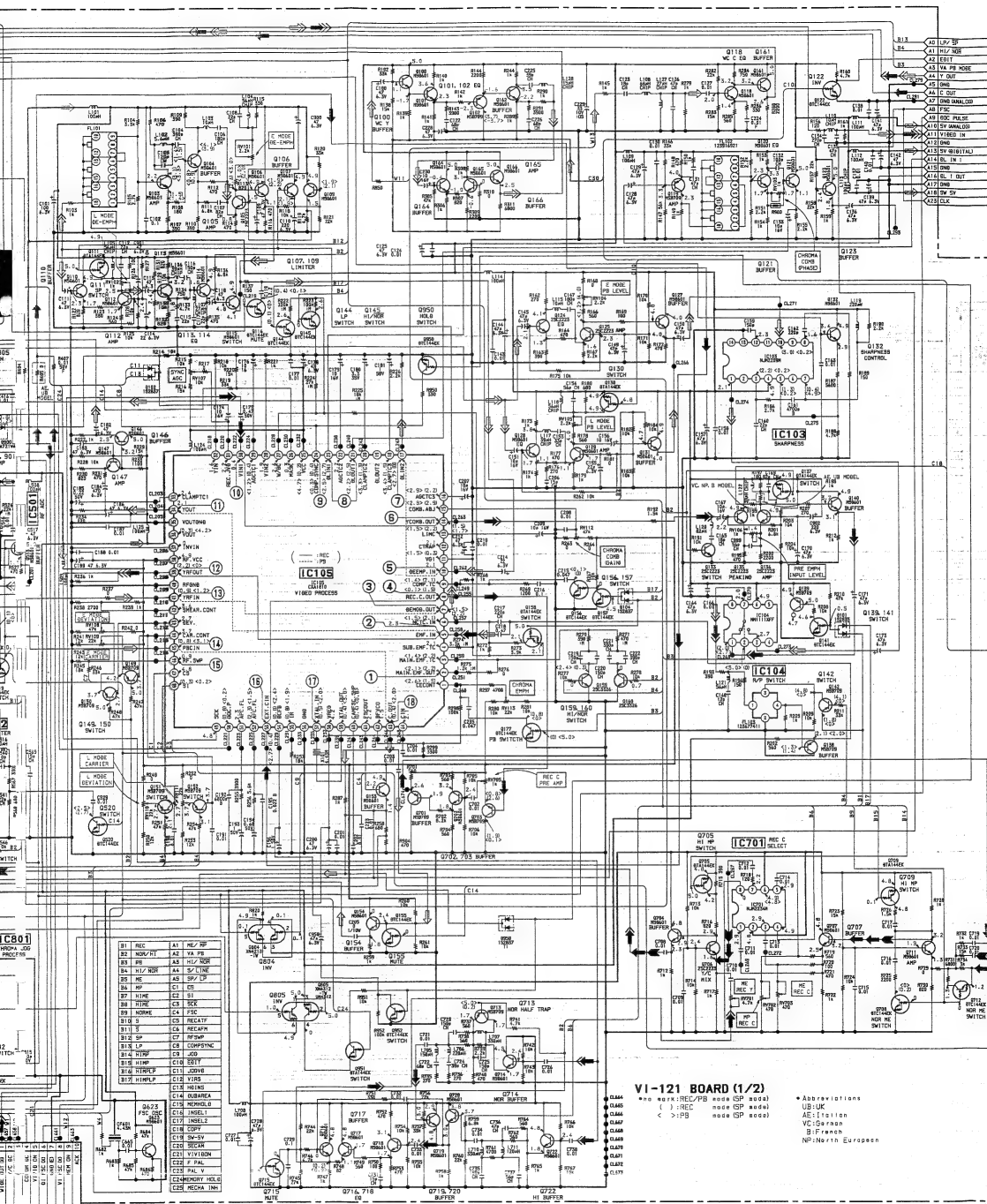




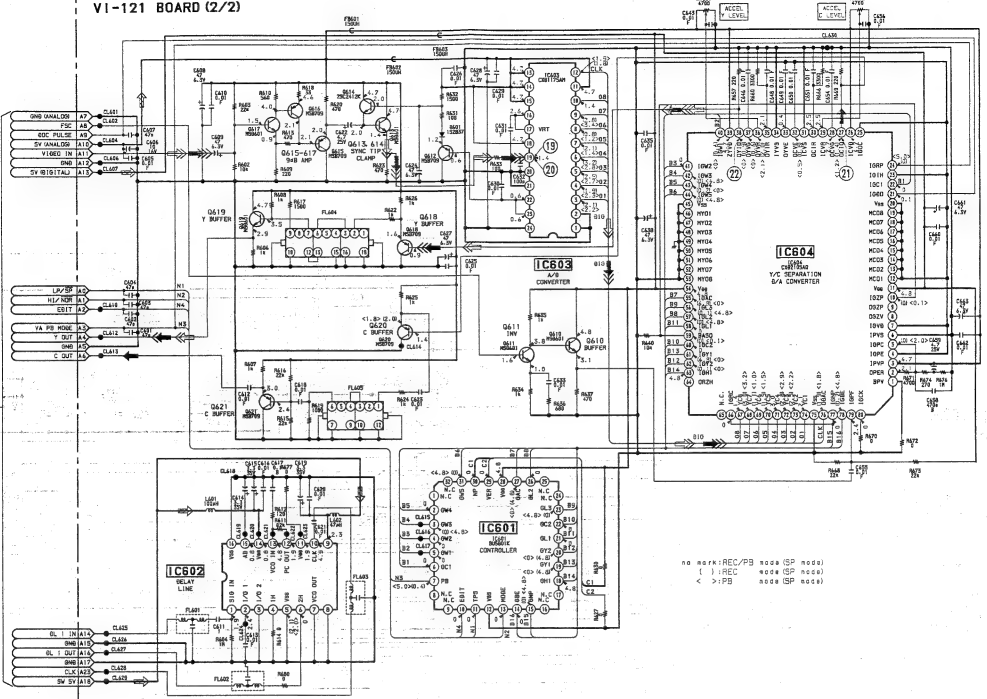
—Ref. No. VI-121 BOARD: 2000 series—

- Refer to page 4-11 for IC block diagrams of IC105 and IC801 on VI-121 board.

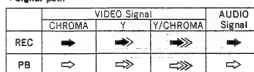




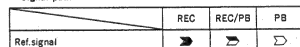
VI-121 BOARD (2/2)



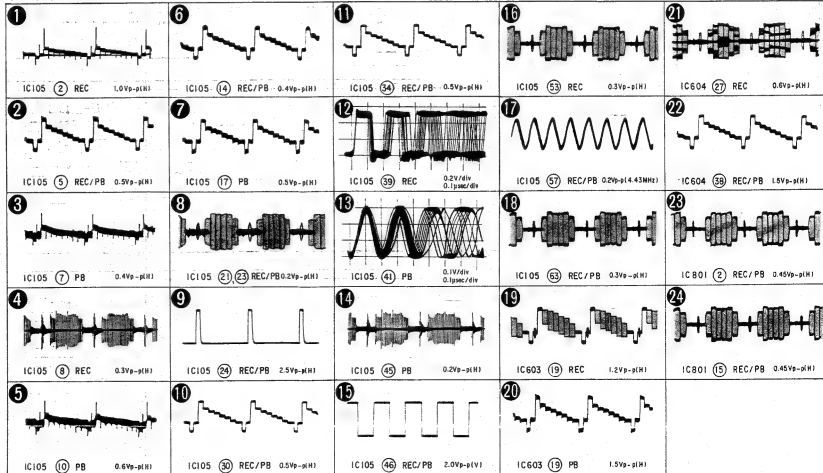
• Signal path



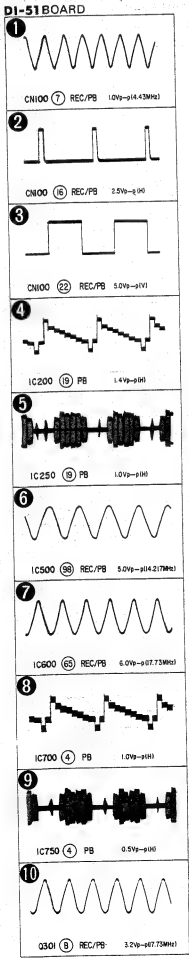
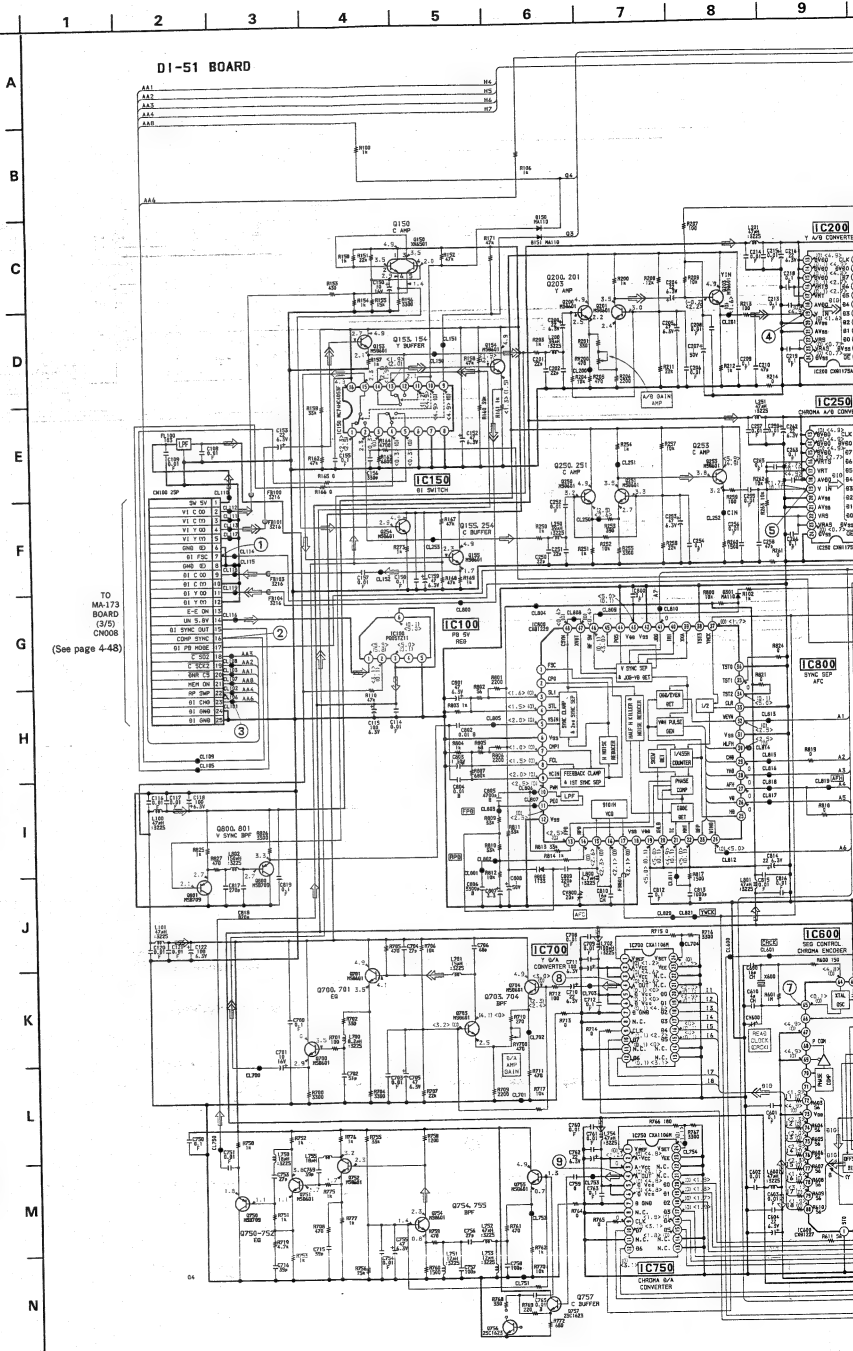
• Signal path



VI-121 BOARD



DI-51 (DIGITAL PROCESS), WC-10 (CPI PROCESS) SCHEMATIC DIAGRAMS
—Ref. No. DI-51 BOARD: 1000 series, WC-10 BOARD: 2000 series—

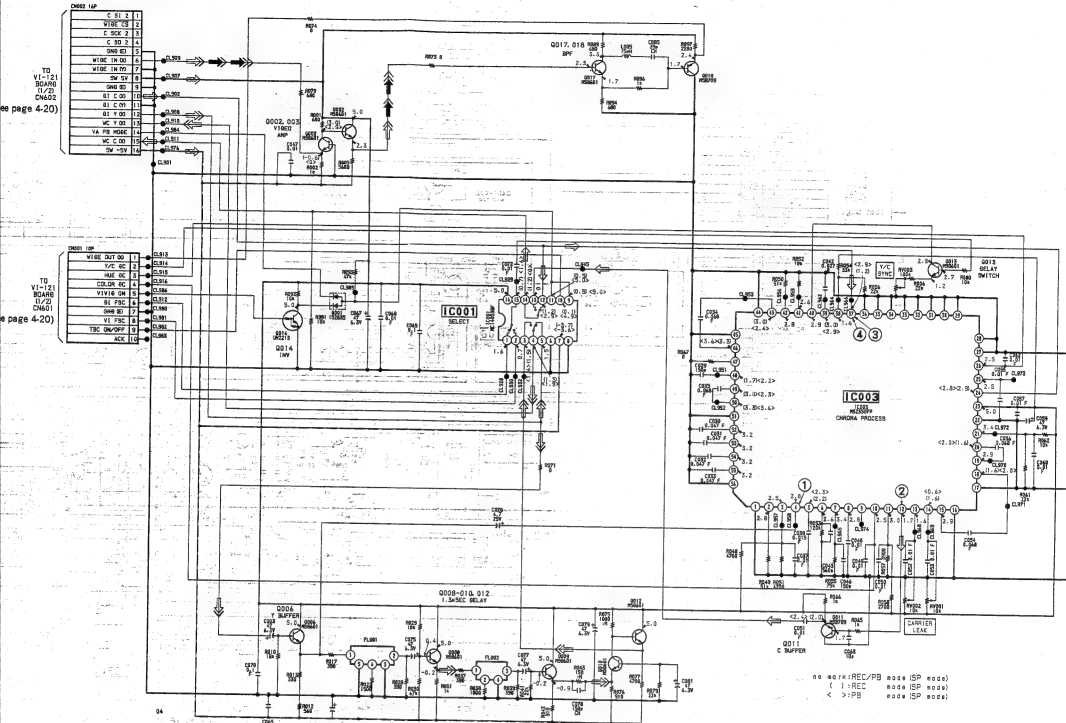


TO MAIN BOARD (3/5)
CN008
(See page 4-48)

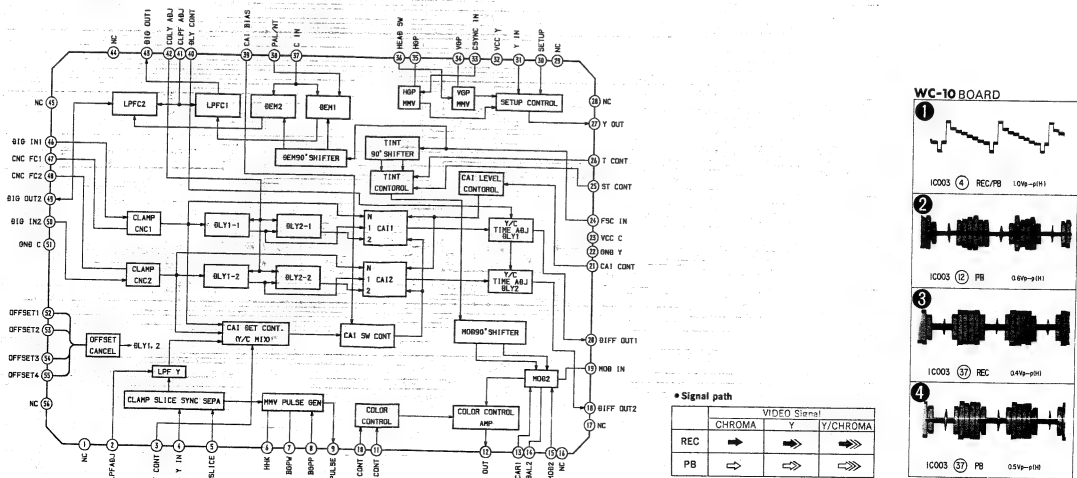




WC-10 BOARD



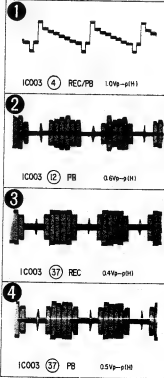
IC003 MS250FP CHROMA PROCESS



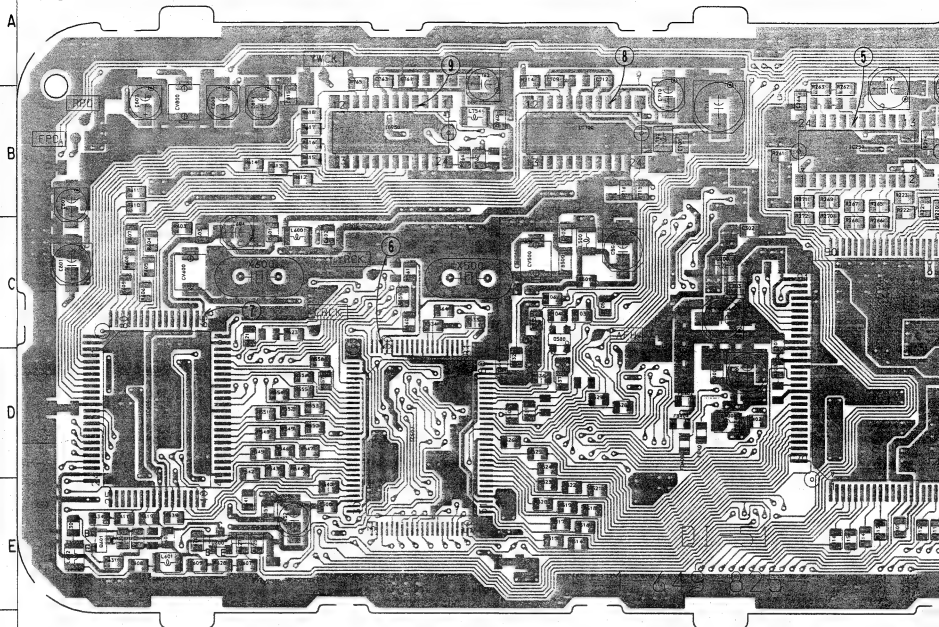
*Signal path

	VIDEO Signal		
	CHROMA	Y	Y/CHROMA
REC	→	→	→
PB	→	→	→

WC-10 BOARD



DI-51 BOARD (COMPONENT SIDE)



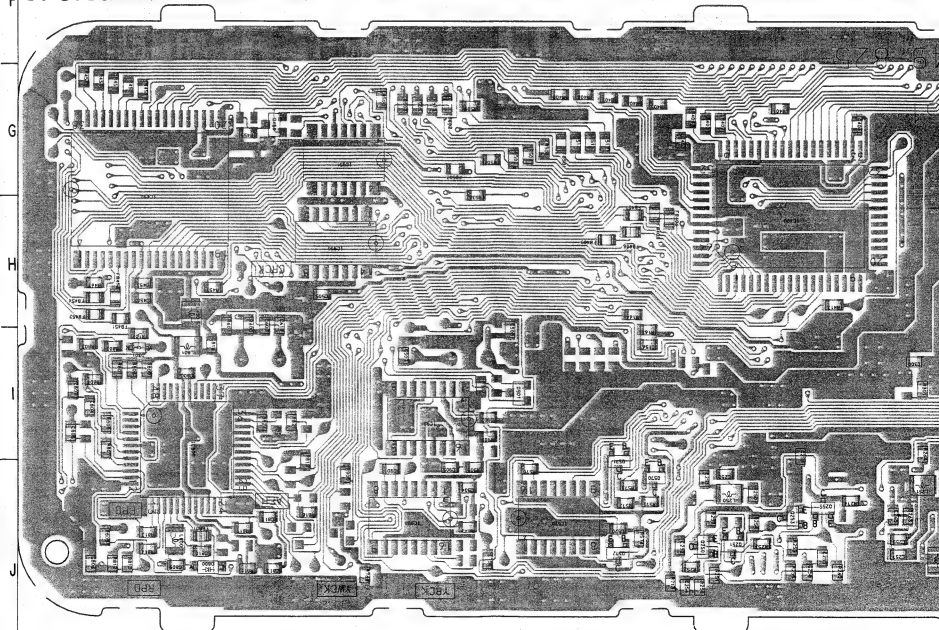
DI-51 BOARD
 CN100 A-10

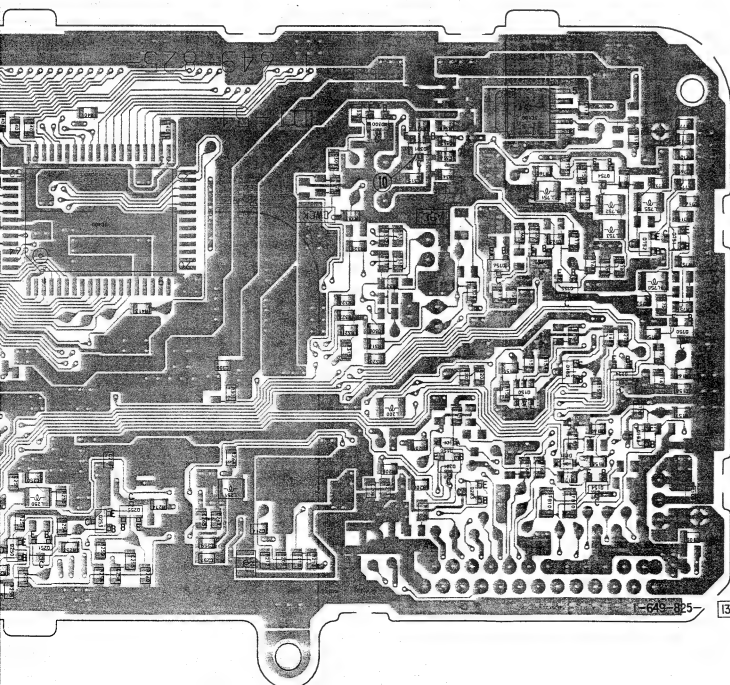
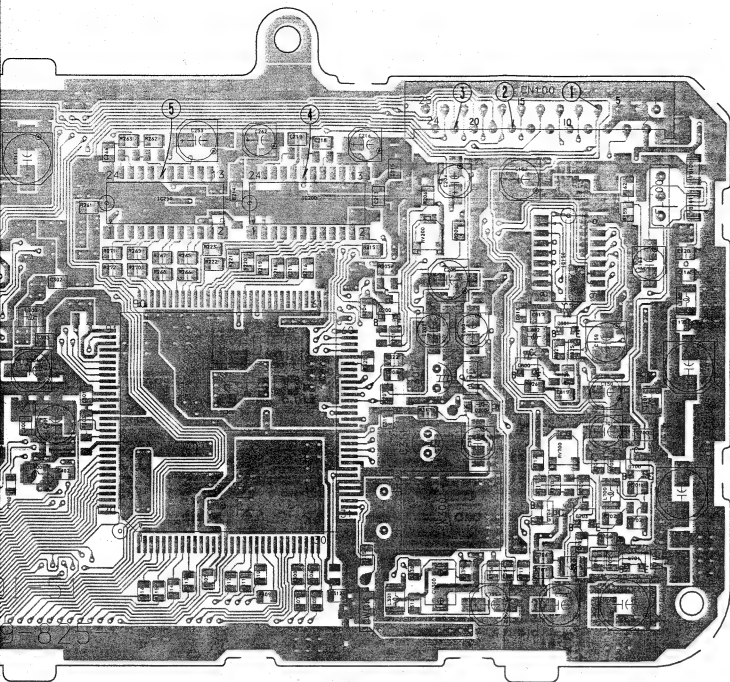
D150 -19
 D151 -110
 D300 D-9
 D301 -11
 D450 Q-2
 D500 Q-5
 D800 J-2
 D901 -14

IC100 Q-10
 IC150 B-10
 IC200 B-8
 IC250 B-7
 IC300 D-7
 IC400 H-7
 IC450 Q-1
 IC500 D-4
 IC570 J-5
 IC600 D-2
 IC700 B-5
 IC750 B-3
 IC800 I-2
 IC900 J-4
 IC901 -14
 IC950 H-3
 IC951 Q-3

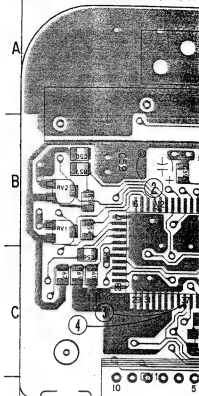
Q150 -110
 Q153 -110
 Q154 -110
 Q155 -110
 Q200 C-9
 Q201 -19
 Q203 -19
 Q250 J-6
 Q251 -16
 Q253 -17
 Q254 -110
 Q255 -17
 Q300 G-9
 Q301 -99
 Q370 J-5
 Q371 -15
 Q372 -15
 Q600 E-2
 Q601 E-1
 Q700 D-10
 Q701 E-10
 Q703 D-10
 Q704 D-10
 Q750 -110
 Q751 -110
 Q752 -110
 Q754 G-10
 Q755 -110
 Q756 -110
 Q757 -110
 Q800 C-10
 Q801 C-10

DI-51 BOARD (CONDUCTOR SIDE)

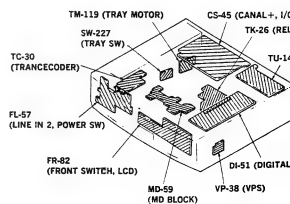
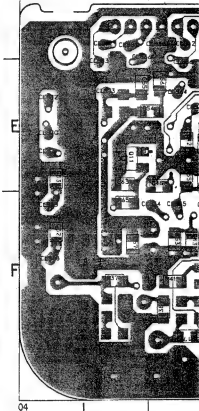


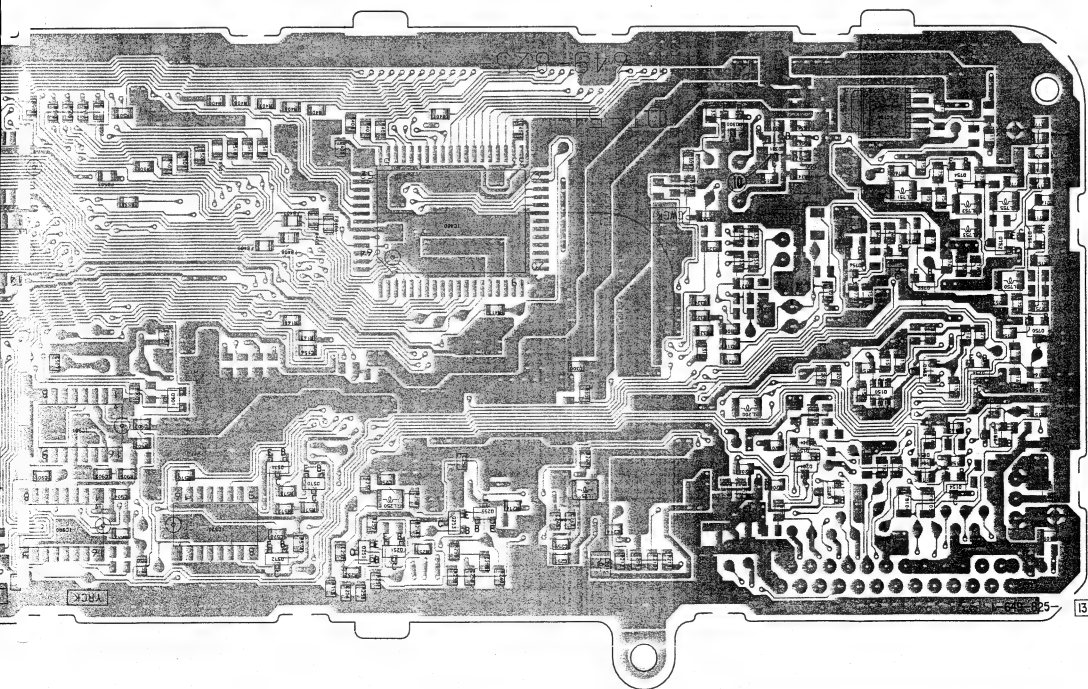
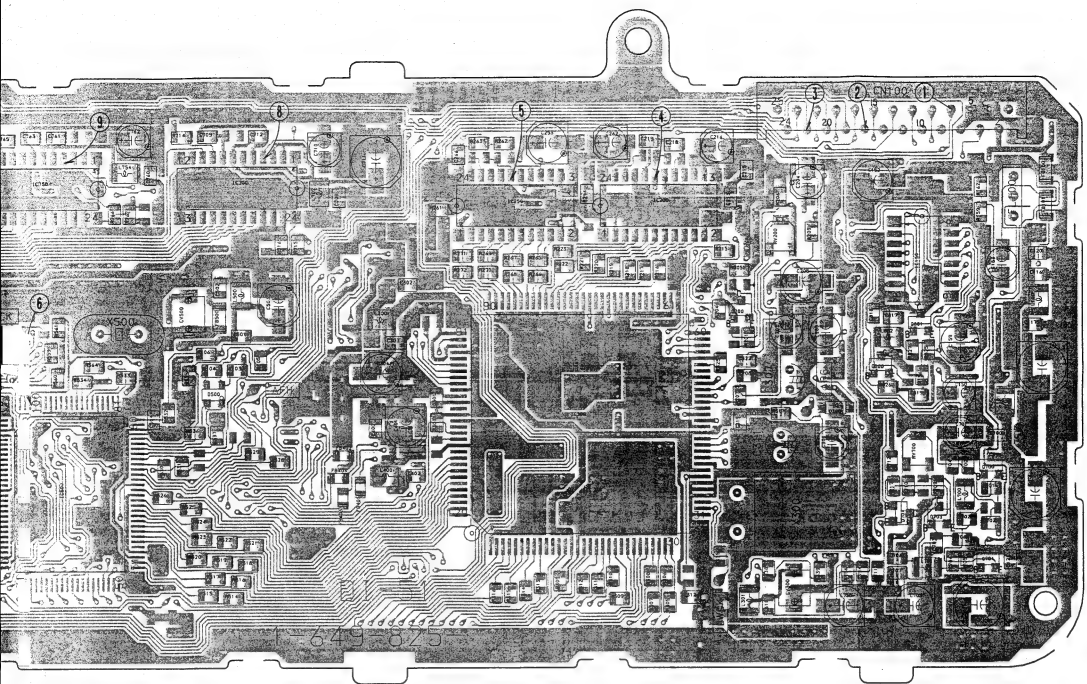


WC-10 BOARD (COM)

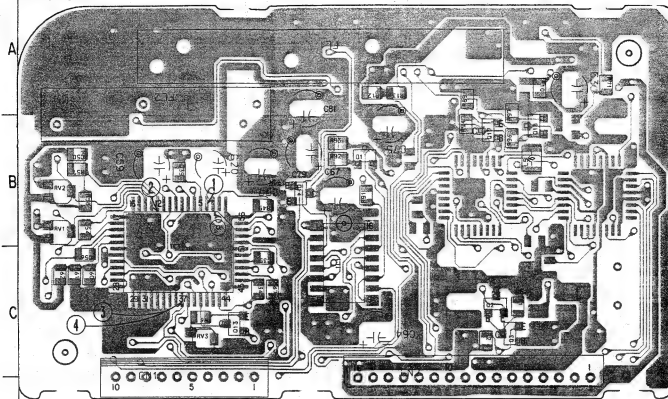


WC-10 BOARD (CON)



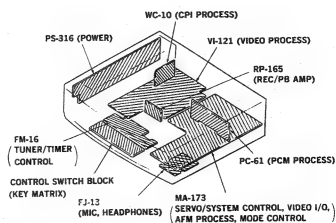
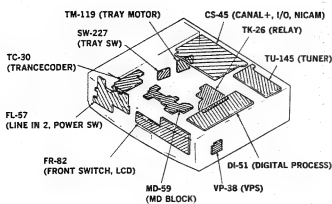
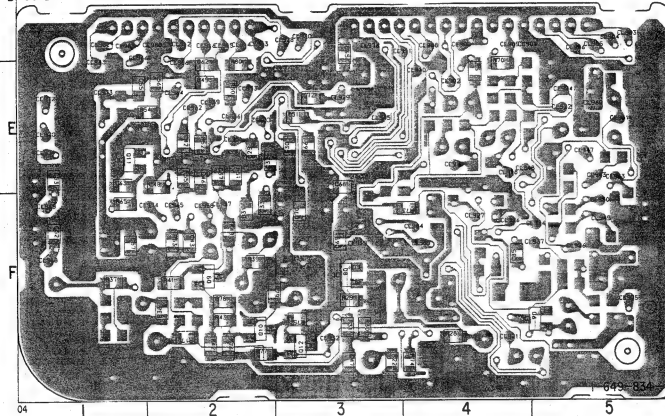


WC-10 BOARD (COMPONENT SIDE)



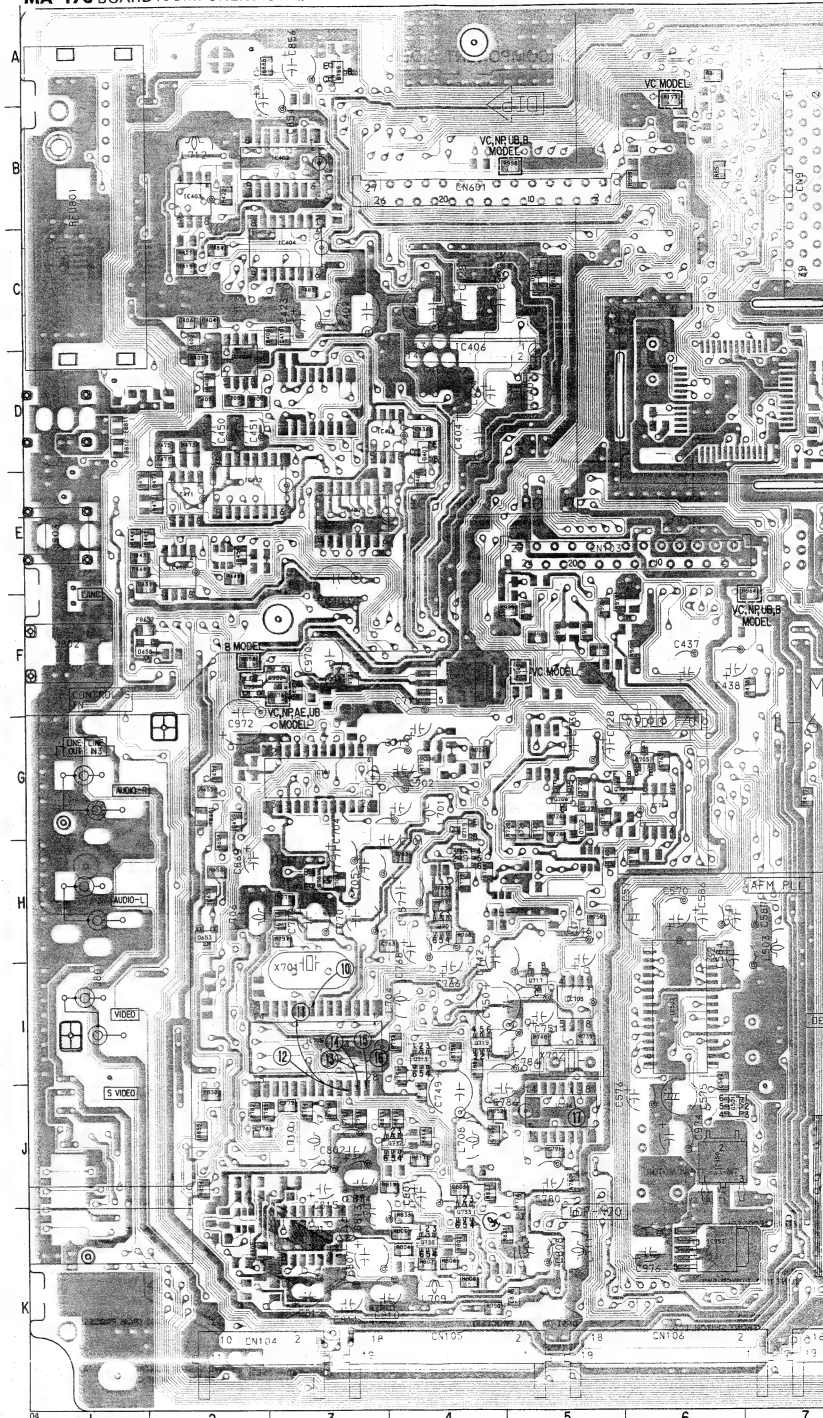
WC-10 BOARD	
CM001	C1
CM002	C4
D001	B3
IC001	C3
IC003	C2
Q002	C4
Q003	C4
Q006	F5
Q008	F3
Q009	F2
Q010	F2
Q011	E1
Q012	F3
Q013	C2
Q014	B3
Q017	B4
Q018	B5

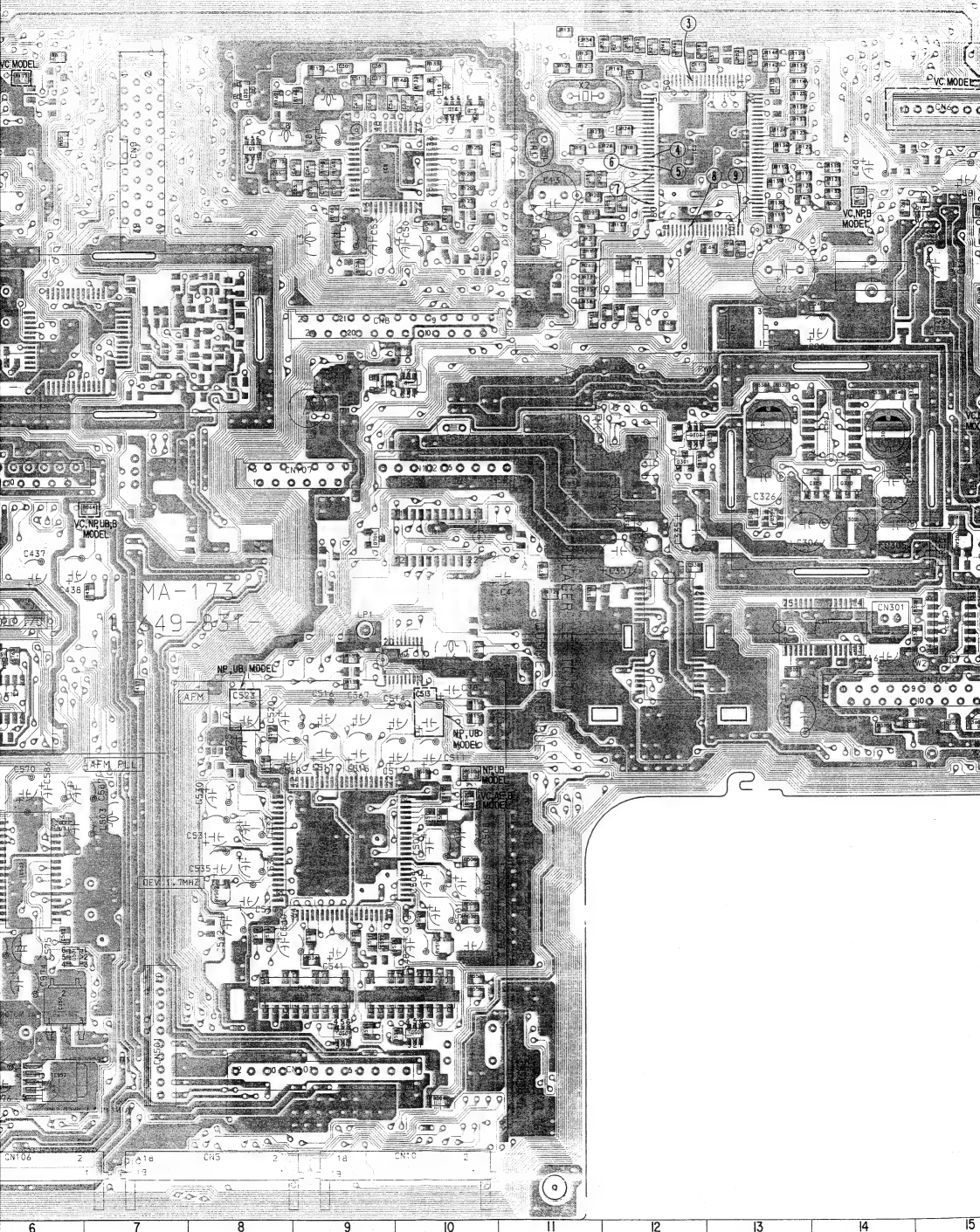
D WC-10 BOARD (CONDUCTOR SIDE)

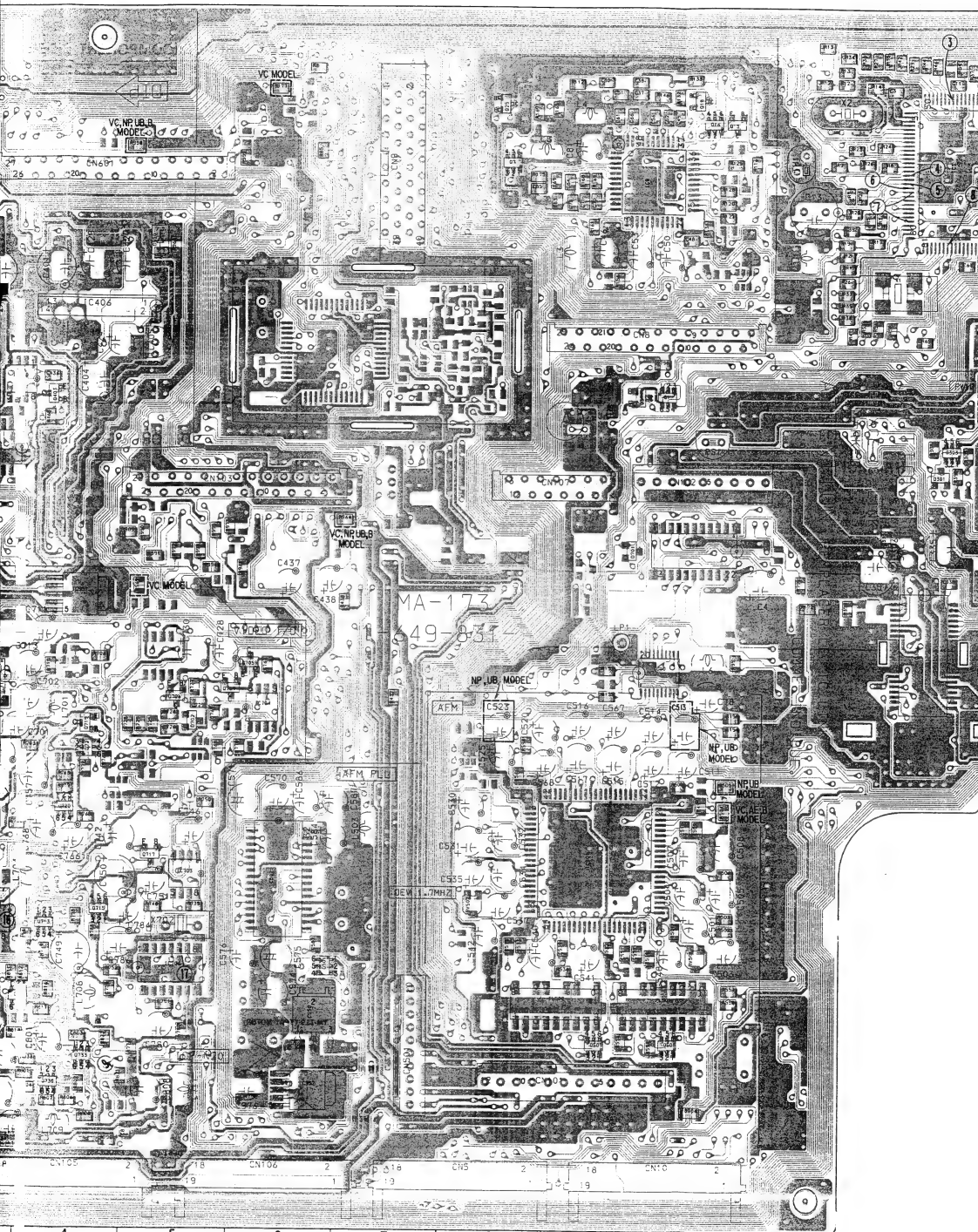


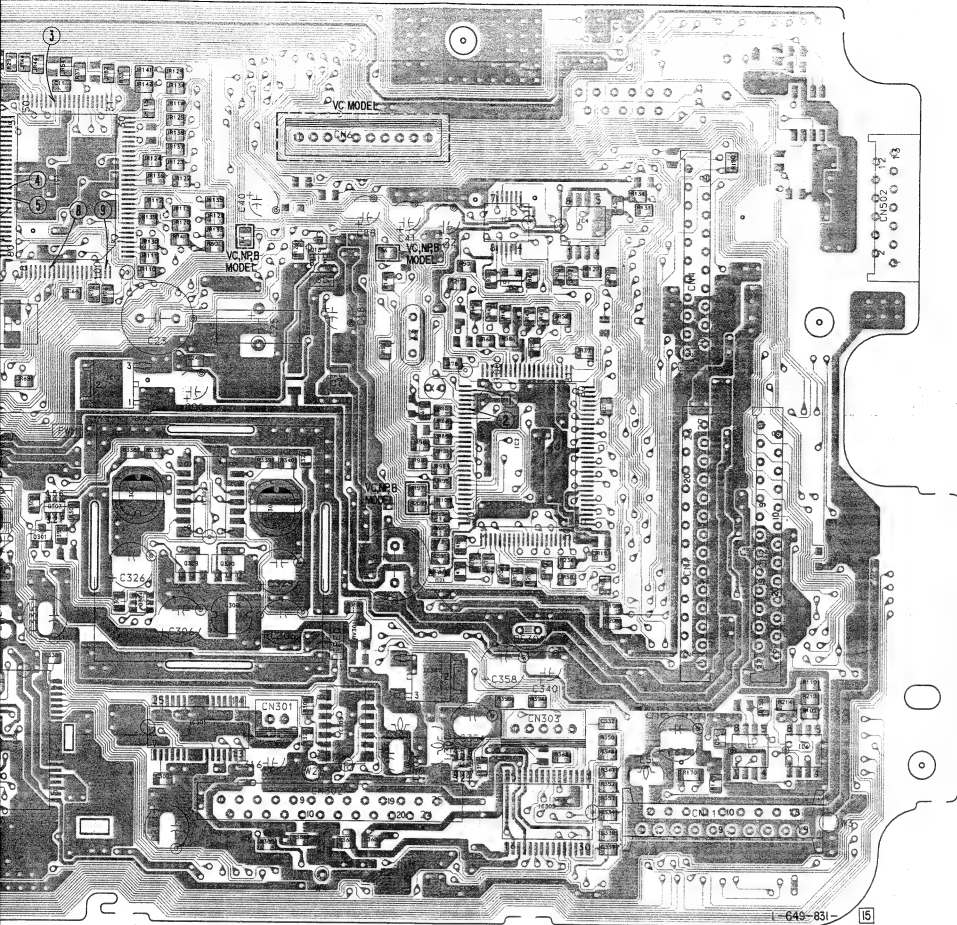
MA-173 (SERVO/SYSTEM CONTROL) PRINTED WIRING BOARD
 —Ref. No. MA-173 BOARD : 3000 series—

MA-173 BOARD (COMPONENT SIDE)



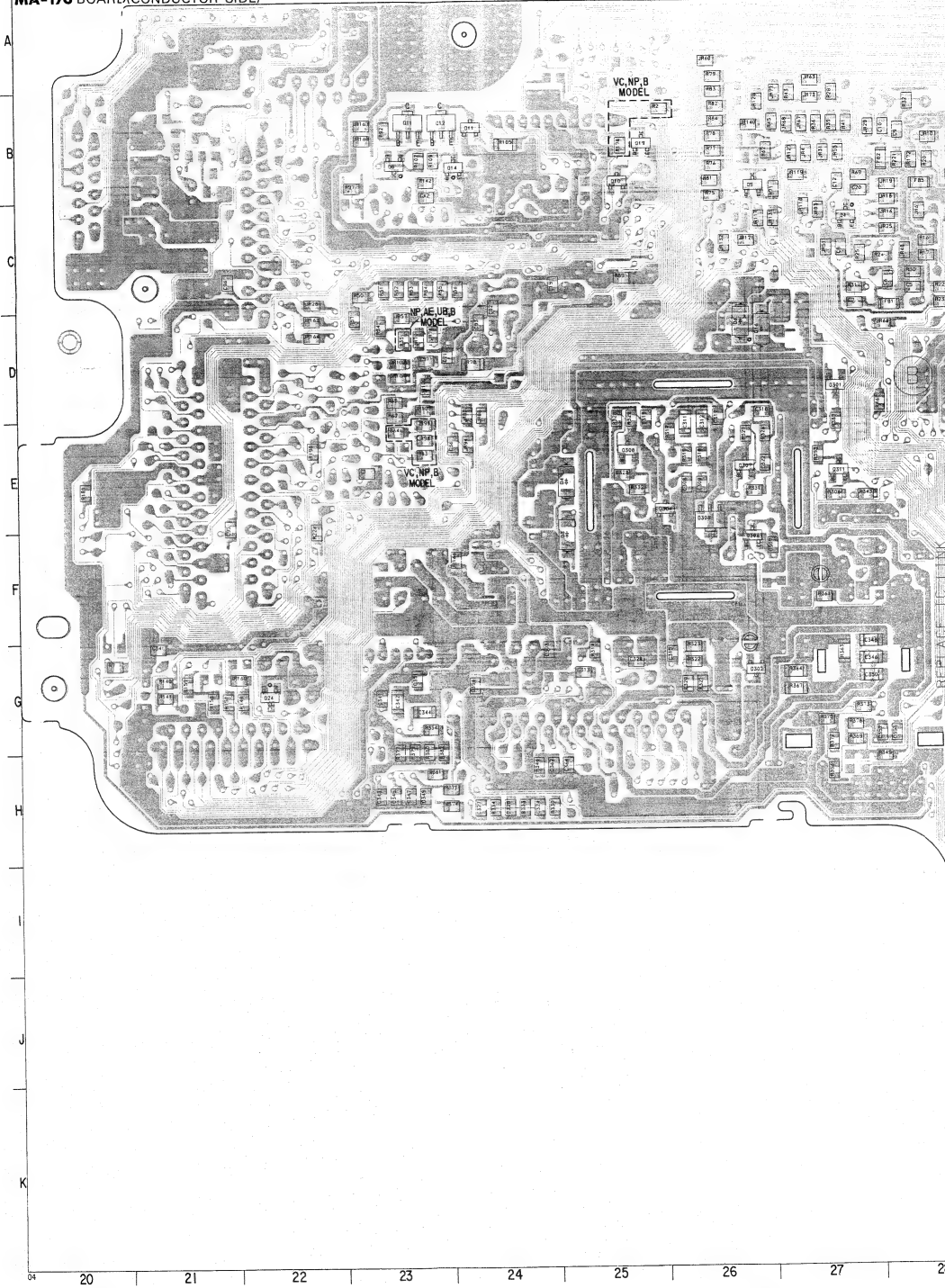


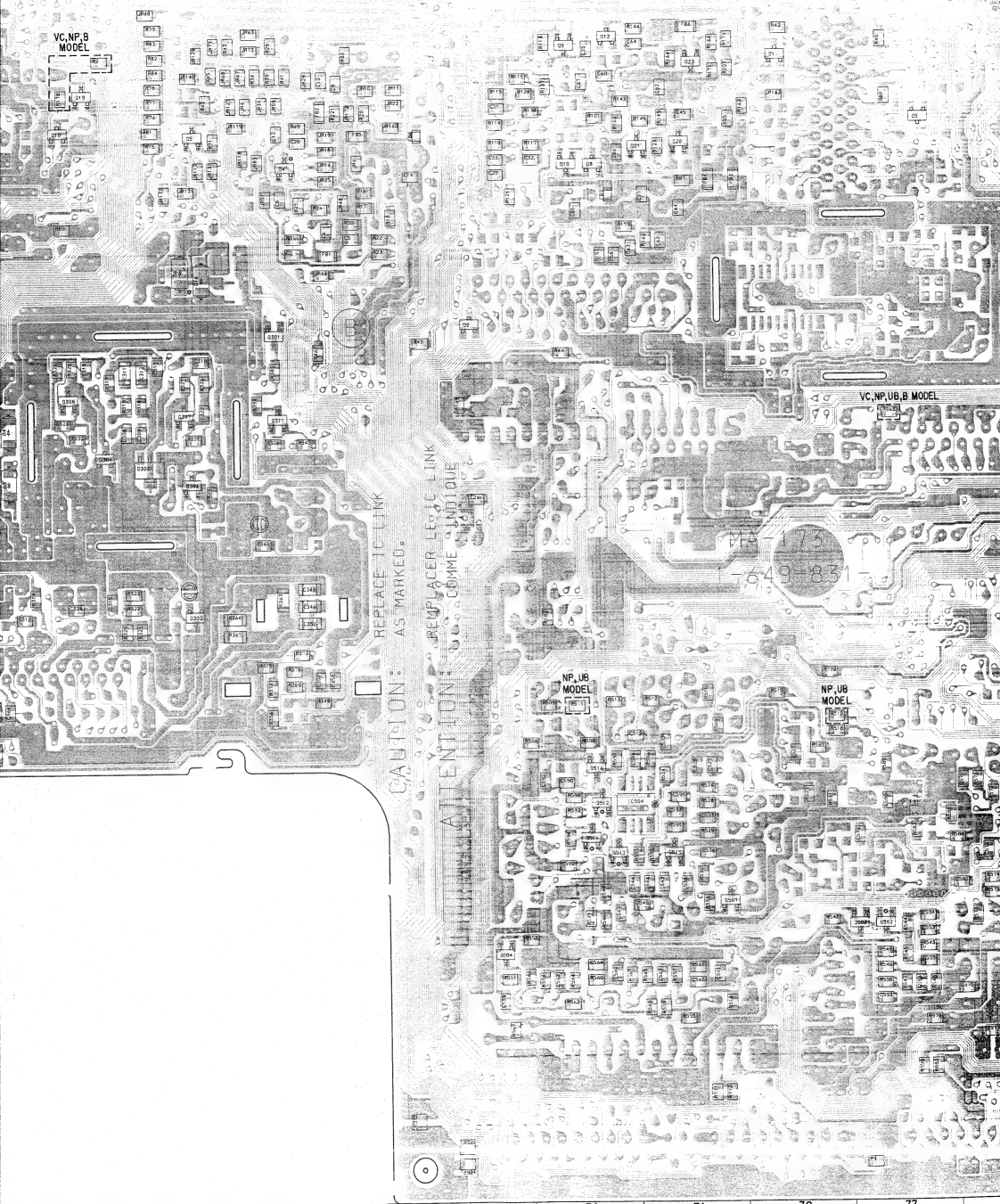






MA-173 BOARD(CONDUCTOR SIDE)







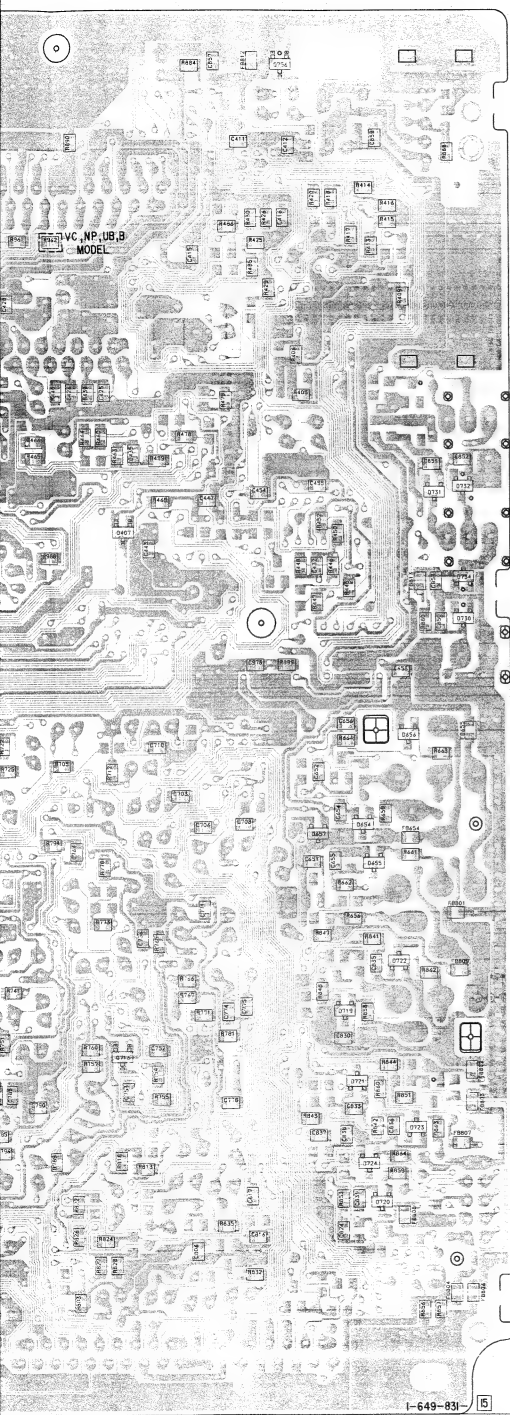
CAUTION: REPLACE LEAD LINK
REPLACE LEAD LINK
ATTENTION: REMPLACER LE LIEN
REEMPLACER LE LIEN

VC_NP_UB.B MODEL

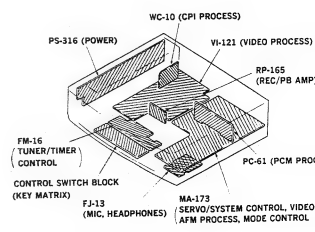
EIA 73
649-831

NP_UB
MODEL

NP_UB
MODEL



- MA-173 BOARD
- | | | | |
|-------|-----|-------|------|
| CH001 | E18 | IC504 | H30 |
| CH002 | E18 | IC701 | D3 |
| CH004 | C18 | IC703 | 15 |
| CH005 | K8 | IC704 | G6 |
| CH006 | B15 | IC705 | 13 |
| CH008 | D9 | IC706 | J5 |
| CH009 | B7 | IC707 | K3 |
| CH010 | K10 | IC980 | J6 |
| CH011 | G18 | IC981 | F4 |
| CH012 | K9 | IC982 | K6 |
| CH103 | E15 | 0001 | D-10 |
| CH104 | K2 | 0003 | D9 |
| CH105 | K4 | 0004 | B-27 |
| CH106 | K6 | 0005 | B-26 |
| CH107 | E9 | 0007 | B8 |
| CH120 | F14 | 0008 | B-23 |
| CH302 | G15 | 0009 | A-30 |
| CH303 | F17 | 0010 | B-30 |
| CH501 | J7 | 0011 | B-23 |
| CH502 | B19 | 0012 | B-23 |
| CH601 | B4 | 0013 | B15 |
| | | 0014 | B-24 |
| | | 0015 | B10 |
| D001 | A32 | 0016 | B10 |
| D003 | E25 | 0018 | A10 |
| D004 | E25 | 0019 | B-25 |
| D005 | D33 | 0020 | B31 |
| D006 | C26 | 0021 | B31 |
| D007 | C16 | 0023 | B31 |
| D008 | B30 | 0024 | G-22 |
| D010 | B25 | 0025 | A8 |
| D011 | B24 | 0301 | D-27 |
| D012 | A30 | 0303 | E12 |
| D016 | C26 | 0304 | E13 |
| D021 | E16 | 0306 | E26 |
| D021 | E12 | 0307 | E26 |
| D022 | G26 | 0308 | E25 |
| D030 | E26 | 0309 | E14 |
| D034 | E25 | 0310 | E14 |
| D063 | H2 | 0311 | E27 |
| D064 | G36 | 0312 | G16 |
| D065 | G38 | 0403 | D-4 |
| D066 | F38 | 0407 | E36 |
| D067 | G37 | 0501 | J6 |
| D068 | F1 | 0502 | I33 |
| D071 | E9 | 0503 | I33 |
| D072 | G5 | 0504 | J29 |
| D073 | H8 | 0507 | I31 |
| D073 | J38 | 0508 | J10 |
| D071 | H8 | 0509 | J9 |
| D072 | H38 | 0512 | H30 |
| D073 | J38 | 0513 | I30 |
| D074 | J38 | 0514 | I30 |
| D073 | E38 | 0515 | I31 |
| D071 | D38 | 0516 | H30 |
| D072 | D38 | 0701 | H3 |
| D074 | E38 | 0705 | G6 |
| D080 | C5 | 0706 | G5 |
| D091 | F2 | 0707 | G5 |
| D092 | F3 | 0713 | I4 |
| | | 0715 | I4 |
| IC001 | F10 | 0716 | I36 |
| IC002 | D16 | 0717 | H5 |
| IC003 | B12 | 0719 | G4 |
| IC004 | B17 | 0720 | H4 |
| IC005 | B16 | 0721 | G4 |
| IC006 | G19 | 0730 | K4 |
| IC007 | G18 | 0732 | J4 |
| IC009 | B10 | 0733 | J4 |
| IC010 | G10 | 0755 | A3 |
| IC012 | D13 | 0756 | A37 |
| IC301 | F14 | | |
| IC302 | E14 | | |
| IC303 | F15 | | |
| IC305 | G17 | | |
| IC306 | G12 | | |
| IC307 | F16 | | |
| IC401 | C2 | | |
| IC402 | B3 | | |
| IC403 | B2 | | |
| IC404 | B3 | | |
| IC405 | D8 | | |
| IC406 | C4 | | |
| IC407 | E3 | | |
| IC408 | D2 | | |
| IC410 | D4 | | |
| IC411 | D2 | | |
| IC412 | D2 | | |
| IC501 | H9 | | |
| IC502 | 16 | | |





(See page 4-50)

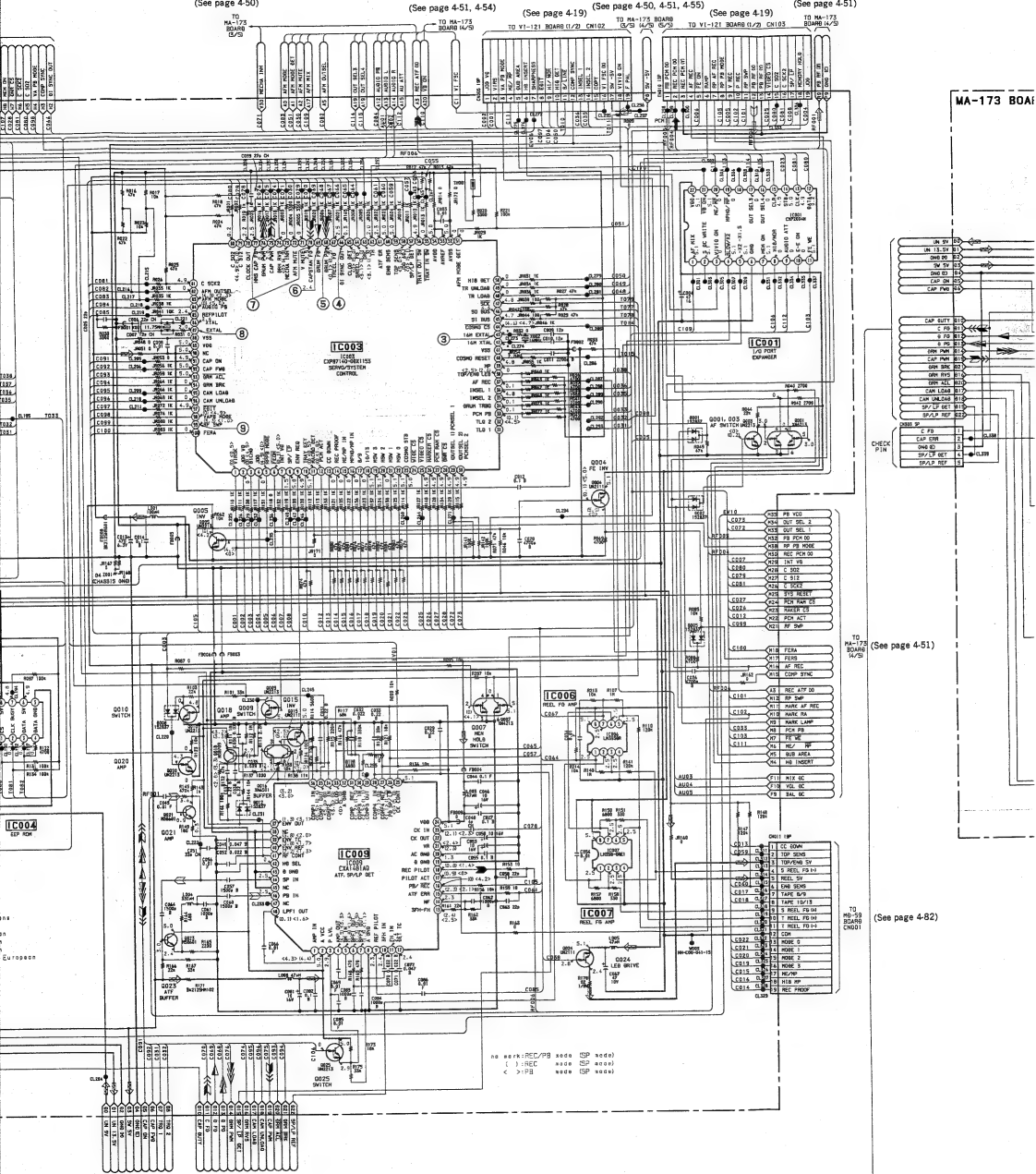
(See page 4-51, 4-54)

(See page 4-19)

(See page 4-50, 4-51, 4-55)

(See page 4-19)

(See page 4-51)

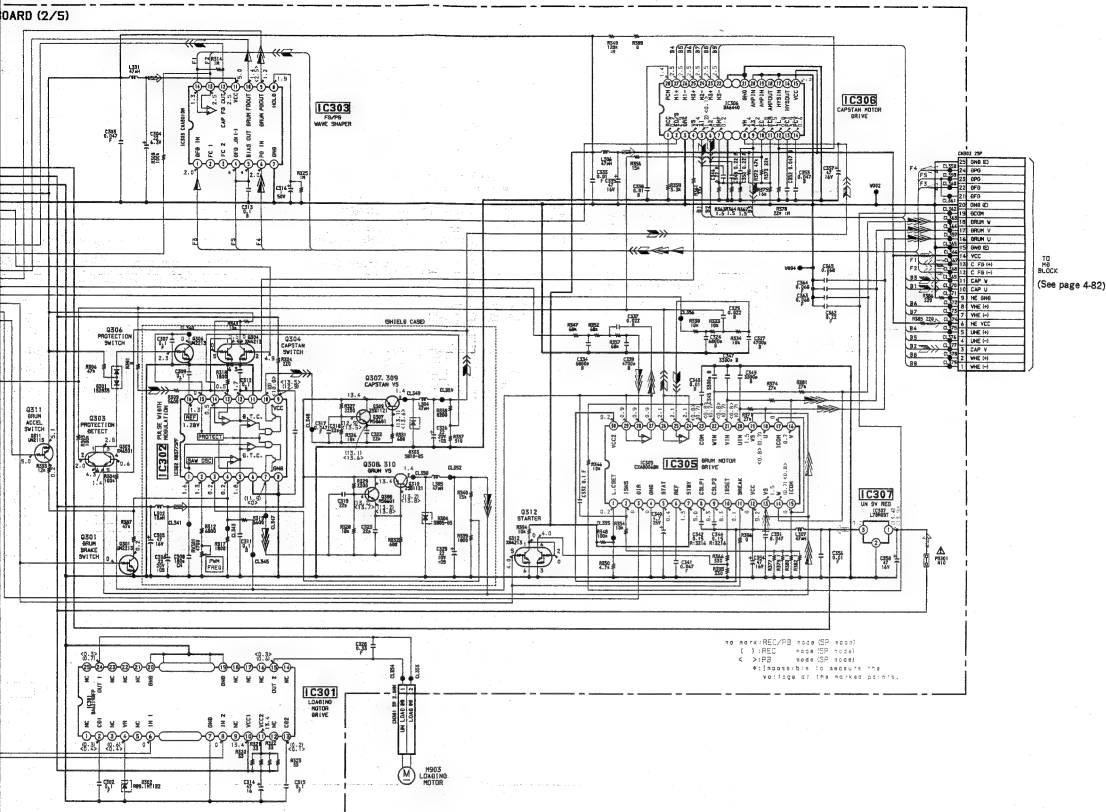


MA-173 BOARD

(See page 4-51)

(See page 4-82)

BOARD (2/5)



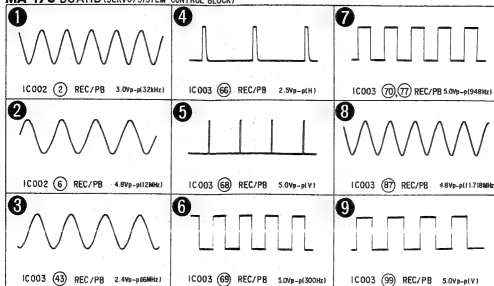
• Signal path

	CHROMA	VCR Signal	AUDIO Signal
REC	→	→	→
PB	→	→	→

• Signal path

	REC	REC/PB	PB
Drum speed servo	→	→	→
Drum phase servo	→	→	→
Drum servo(speed and phase)	→	→	→
Capstan speed servo	→	→	→
Capstan phase servo	→	→	→
Capstan servo(speed and phase)	→	→	→
Ref.signal	→	→	→

MA-173 BOARD (SERVO/SYSTEM CONTROL BLOCK)



Note:
The components identified by mark A or dotted line with mark A are critical for safety. Replace only with part number specified.

Note:
Les composants identifiés par une marque A ou une ligne pointillée avec une marque A sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

—Ref. No. MA-173 BOARD: 3000 series—


1	2	3	4
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[illegible]

UB:UK
AE:Italian
VC:German
B:French
NP:North Europe

```
( ):REC      node (SP node)
< >:PB      node (SP node)
```

TO
91-51
BOARD
CN601
(See page 4-24)

Note:
Les composants identifiés par une marque  sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

10

IC705 (8) REC/PB 4.60p-02773 (Wet?)

11

IC705 (20) REC/PB 2.07p-000

12

IC705 (20) PB 1.51p-0101

13

IC705 (26) REC/PB 1.07p-000

14

IC705 (26) PB 0.21p-000

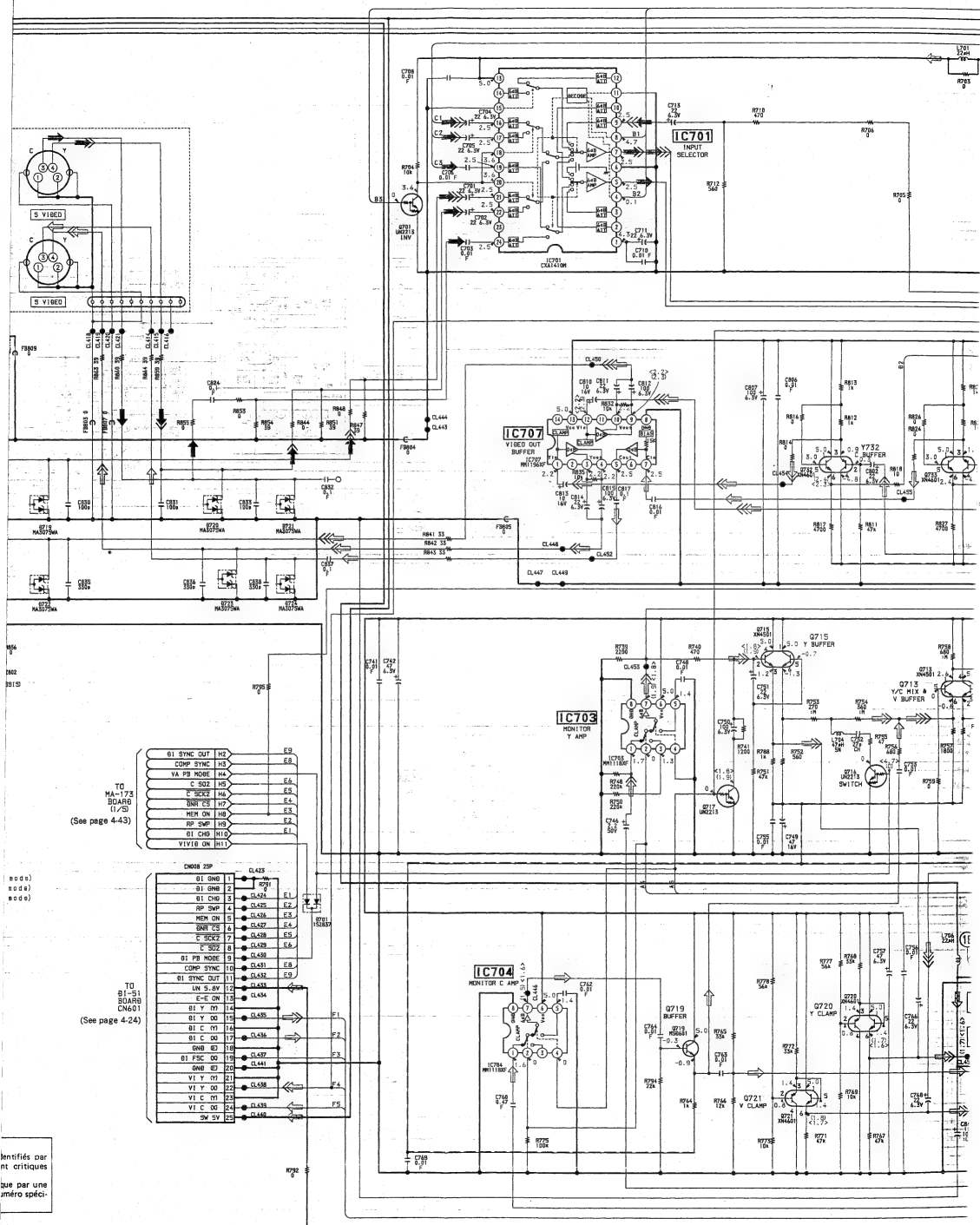
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IC705 (27) REC/PB 2.07p-0101

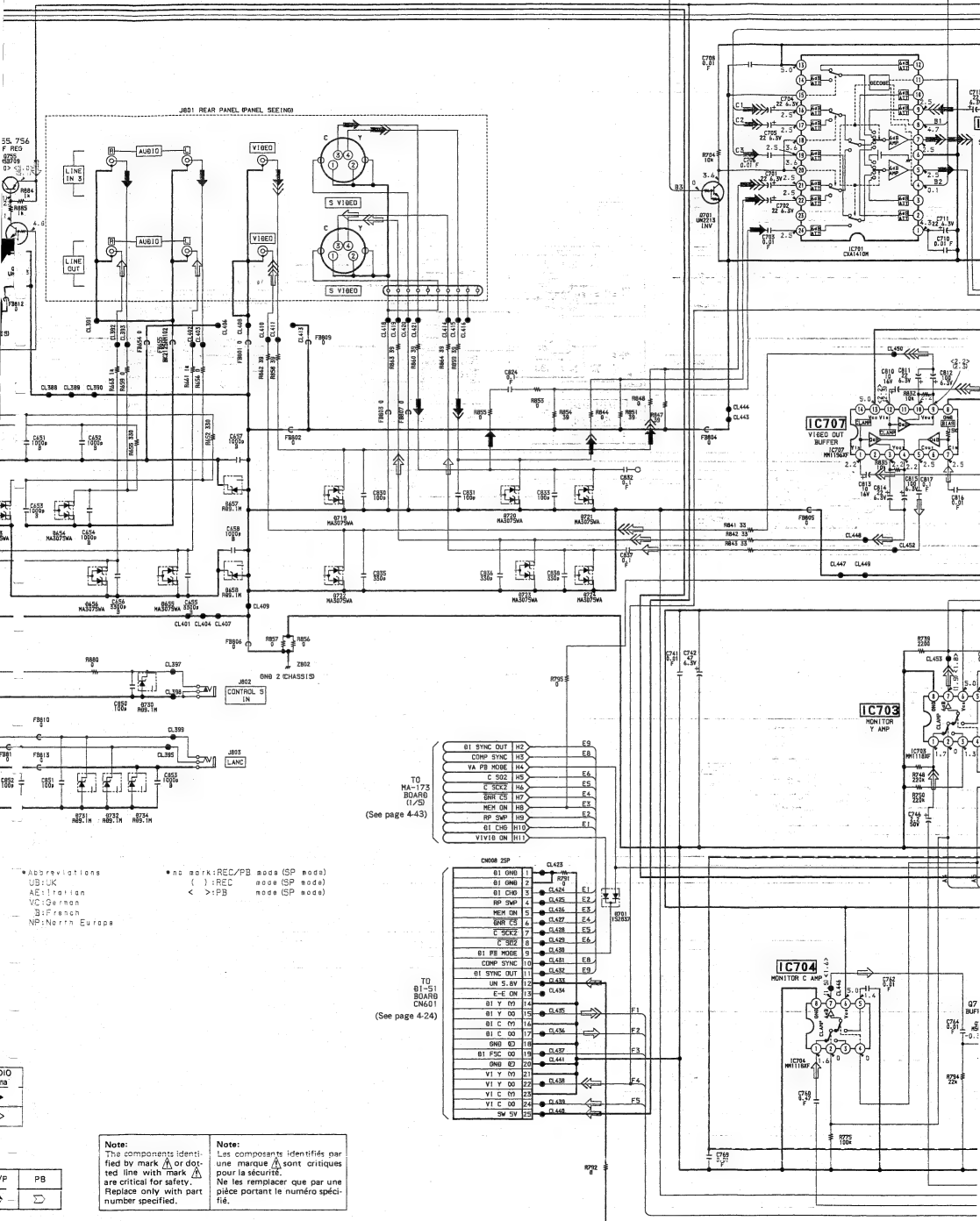
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IC705 (27) PB 0.70p-01000000

17

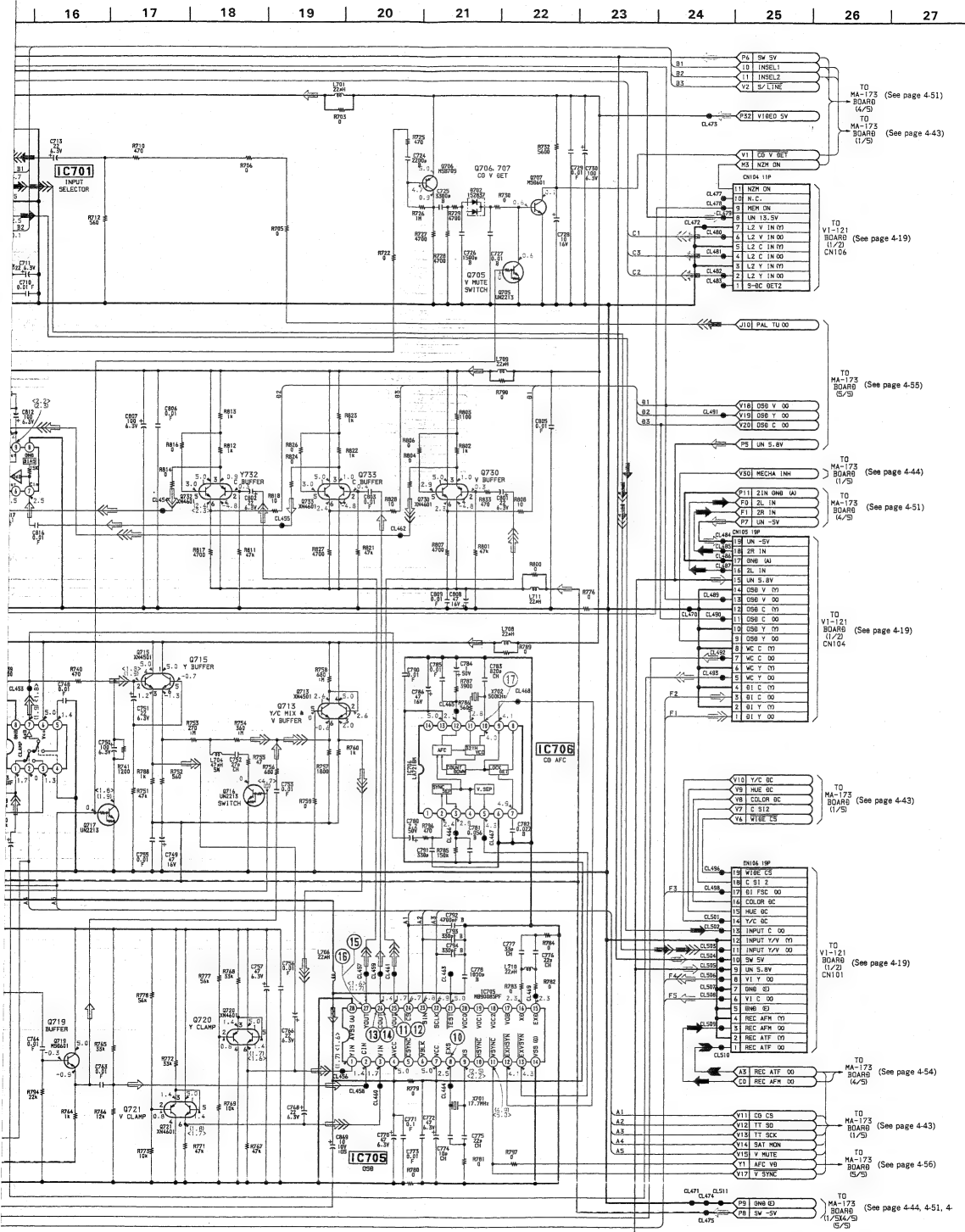


RD (3/5)



Note: The components identified by mark **A** or dotted line with mark **A** are critical for safety. Replace only with part number specified.

Note: Les composants identifiés par une marque **A** sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

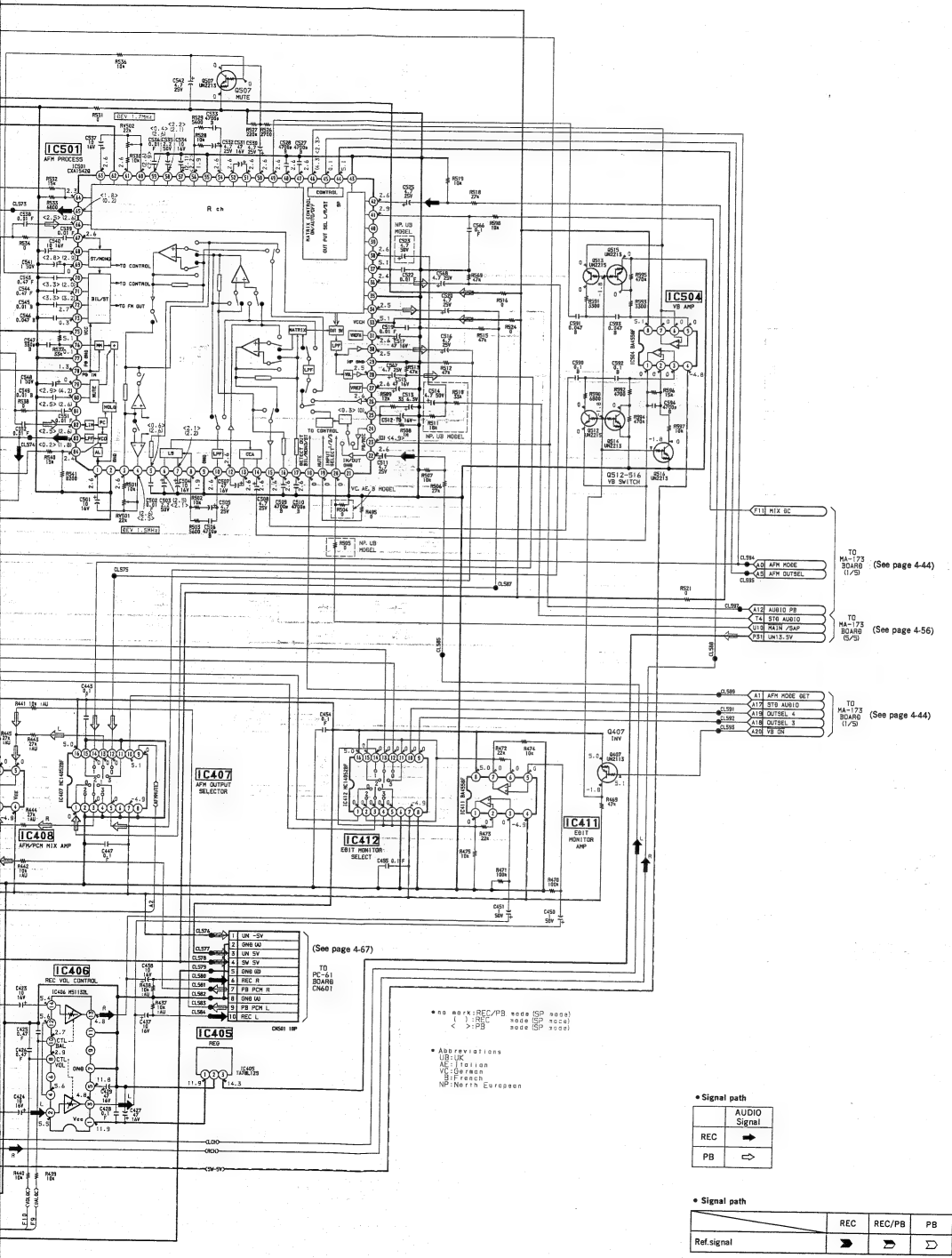




5)
CH701

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800	801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820	821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840	841	842	843	844	845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	860	861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	877	878	879	880	881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897	898	899	900	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	930	931	932	933	934	935	936	937	938	939	940	941	942	943	944	945	946	947	948	949	950	951	952	953	954	955	956	957	958	959	960	961	962	963	964	965	966	967	968	969	970	971	972	973	974	975	976	977	978	979	980	981	982	983	984	985	986	987	988	989	990	991	992	993	994	995	996	997	998	999	1000	1001	1002	1003	1004	1005	1006	1007	1008	1009	1010	1011	1012	1013	1014	1015	1016	1017	1018	1019	1020	1021	1022	1023	1024	1025	1026	1027	1028	1029	1030	1031	1032	1033	1034	1035	1036	1037	1038	1039	1040	1041	1042	1043	1044	1045	1046	1047	1048	1049	1050	1051	1052	1053	1054	1055	1056	1057	1058	1059	1060	1061	1062	1063	1064	1065	1066	1067	1068	1069	1070	1071	1072	1073	1074	1075	1076	1077	1078	1079	1080	1081	1082	1083	1084	1085	1086	1087	1088	1089	1090	1091	1092	1093	1094	1095	1096	1097	1098	1099	1100	1101	1102	1103	1104	1105	1106	1107	1108	1109	1110	1111	1112	1113	1114	1115	1116	1117	1118	1119	1120	1121	1122	1123	1124	1125	1126	1127	1128	1129	1130	1131	1132	1133	1134	1135	1136	1137	1138	1139	1140	1141	1142	1143	1144	1145	1146	1147	1148	1149	1150	1151	1152	1153	1154	1155	1156	1157	1158	1159	1160	1161	1162	1163	1164	1165	1166	1167	1168	1169	1170	1171	1172	1173	1174	1175	1176	1177	1178	1179	1180	1181	1182	1183	1184	1185	1186	1187	1188	1189	1190	1191	1192	1193	1194	1195	1196	1197	1198	1199	1200	1201	1202	1203	1204	1205	1206	1207	1208	1209	1210	1211	1212	1213	1214	1215	1216	1217	1218	1219	1220	1221	12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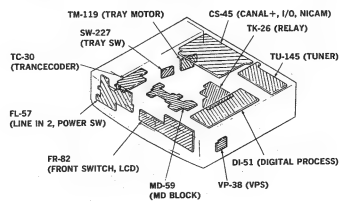
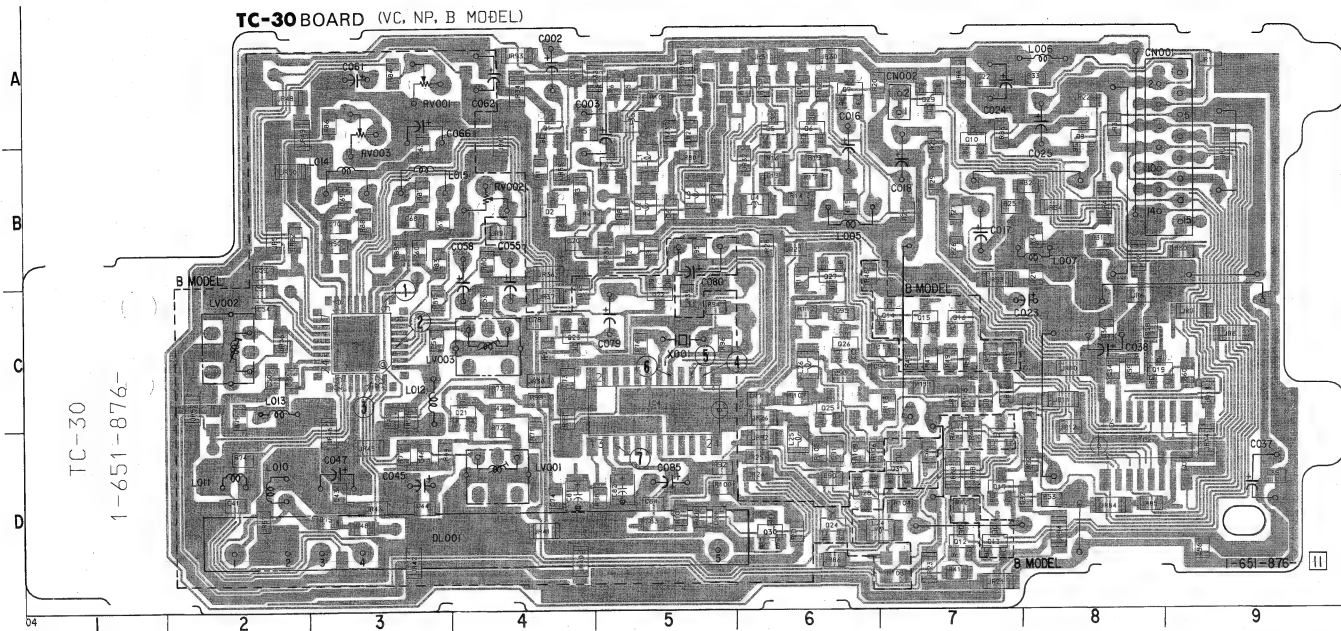




EV-S9000E AE/B/NP/UB/VC

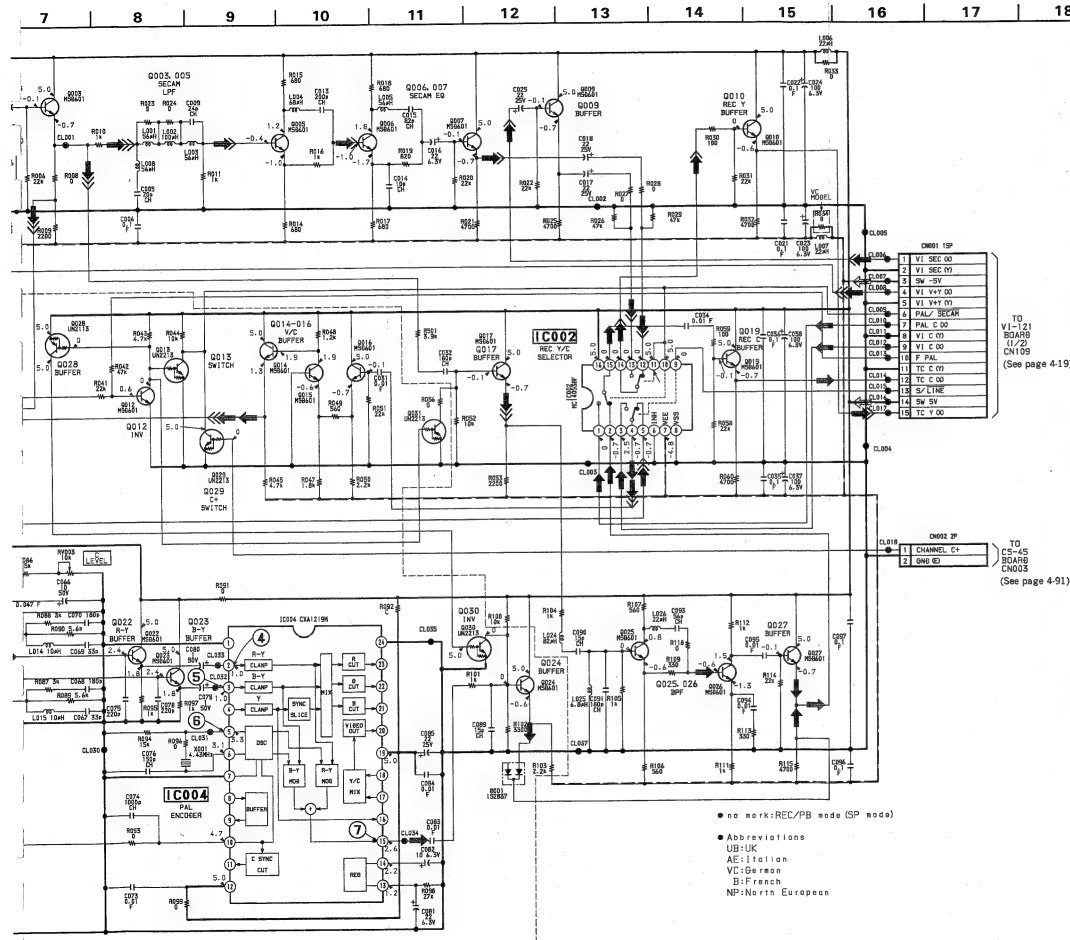
TC-30 (TRANSCODER PROCESS) PRINTED WIRING BOARD

—Ref. No. TC-30 BOARD: 9000 series—

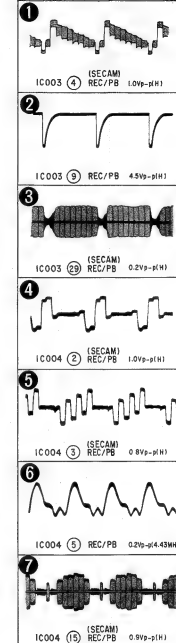


TC-30 BOARD	0001	A-4
CN001 A-8	0002	B-4
CN002 A-7	0003	B-5
	0005	A-6
D001 D-7	0006	A-6
	0007	A-6
IC002 D-8	0009	A-7
IC003 C-3	0010	D-7
IC004 C-5	0012	C-7
	0013	D-7
	0014	C-7
	0015	C-7
	0016	C-7
	0017	D-7
	0019	C-8
	0021	C-4
	0022	C-5
	0023	C-4
	0024	D-6
	0025	D-6
	0026	C-6
	0027	B-6
	0028	D-6
	0029	A-7
	0031	D-7



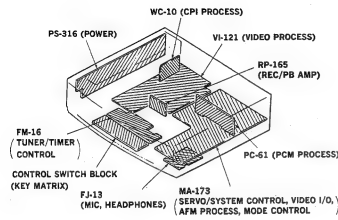


TC-30BOARD



Signal path

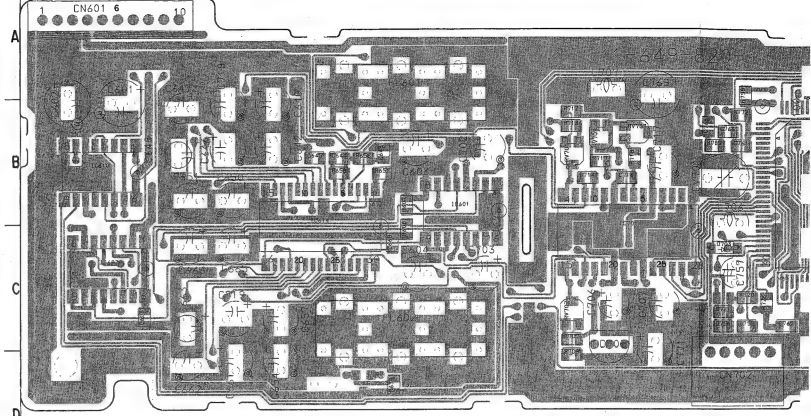
	VIDEO SIGNAL		
	CHROMA	Y	Y/CHROMA
REC	→	→	→
PB	→	→	→



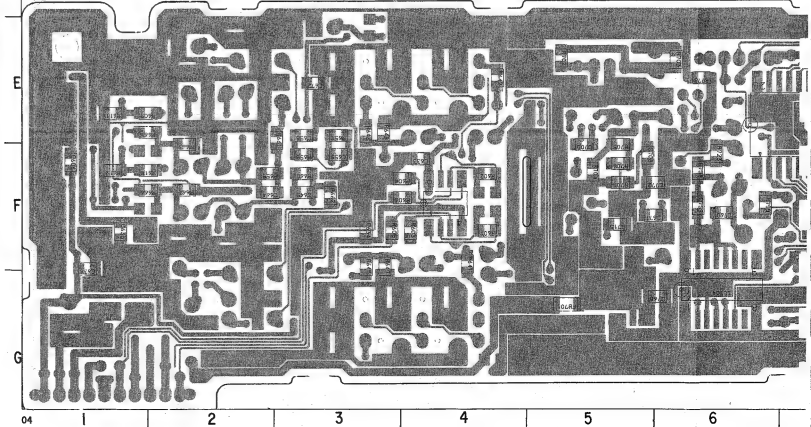
PC-61 (PCM AUDIO PROCESS) PRINTED WIRING BOARD
—Ref. No. PC-61 BOARD: 4000 series—

PC-61 BOARD (COMPONENT SIDE)

- PC-61 BOARD
- | | |
|-------|-----|
| CN601 | A1 |
| CN701 | A5 |
| CN702 | D4 |
| CN703 | D10 |
| D702 | B10 |
| D703 | C4 |
| IC601 | B4 |
| IC602 | C1 |
| IC603 | F4 |
| IC610 | B1 |
| IC614 | B3 |
| IC701 | B5 |
| IC703 | B7 |
| IC704 | G4 |
| IC705 | E7 |
| IC707 | C4 |
| IC708 | C10 |
| IC709 | C5 |
| Q703 | B10 |
| Q704 | F5 |
| Q705 | B9 |
| Q706 | B9 |
| Q708 | C10 |
| Q711 | B9 |



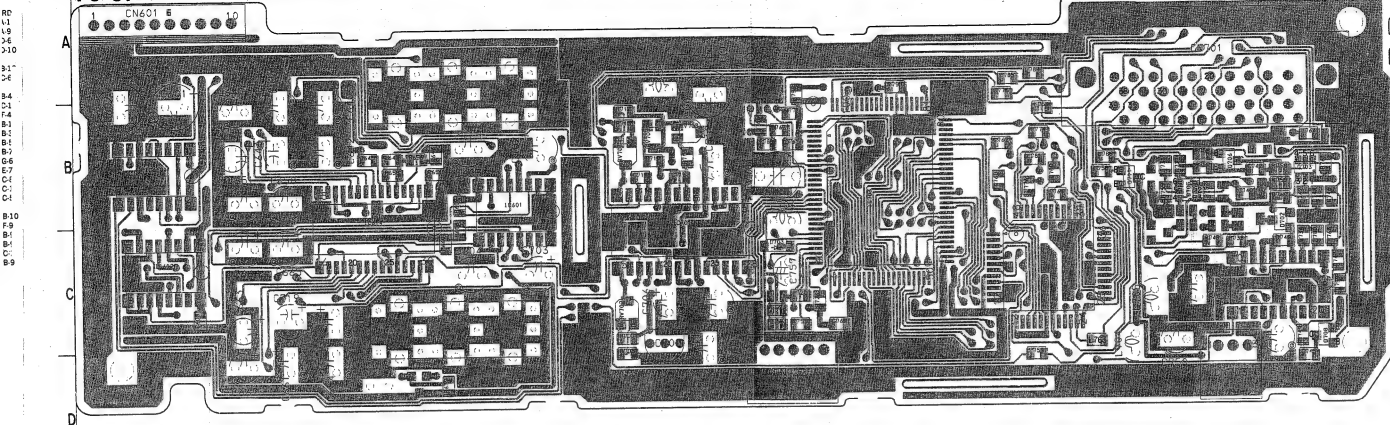
PC-61 BOARD (CONDUCTOR SIDE)



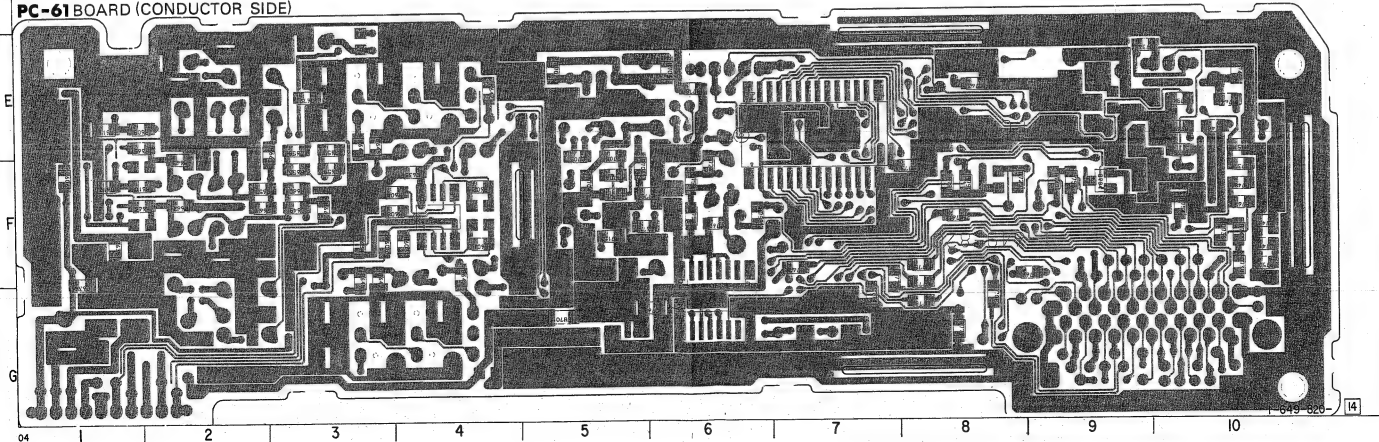
PC-61 (PCM AUDIO PROCESS) PRINTED WIRING BOARD

—Ref. No. PC-61 BOARD: 4000 series—

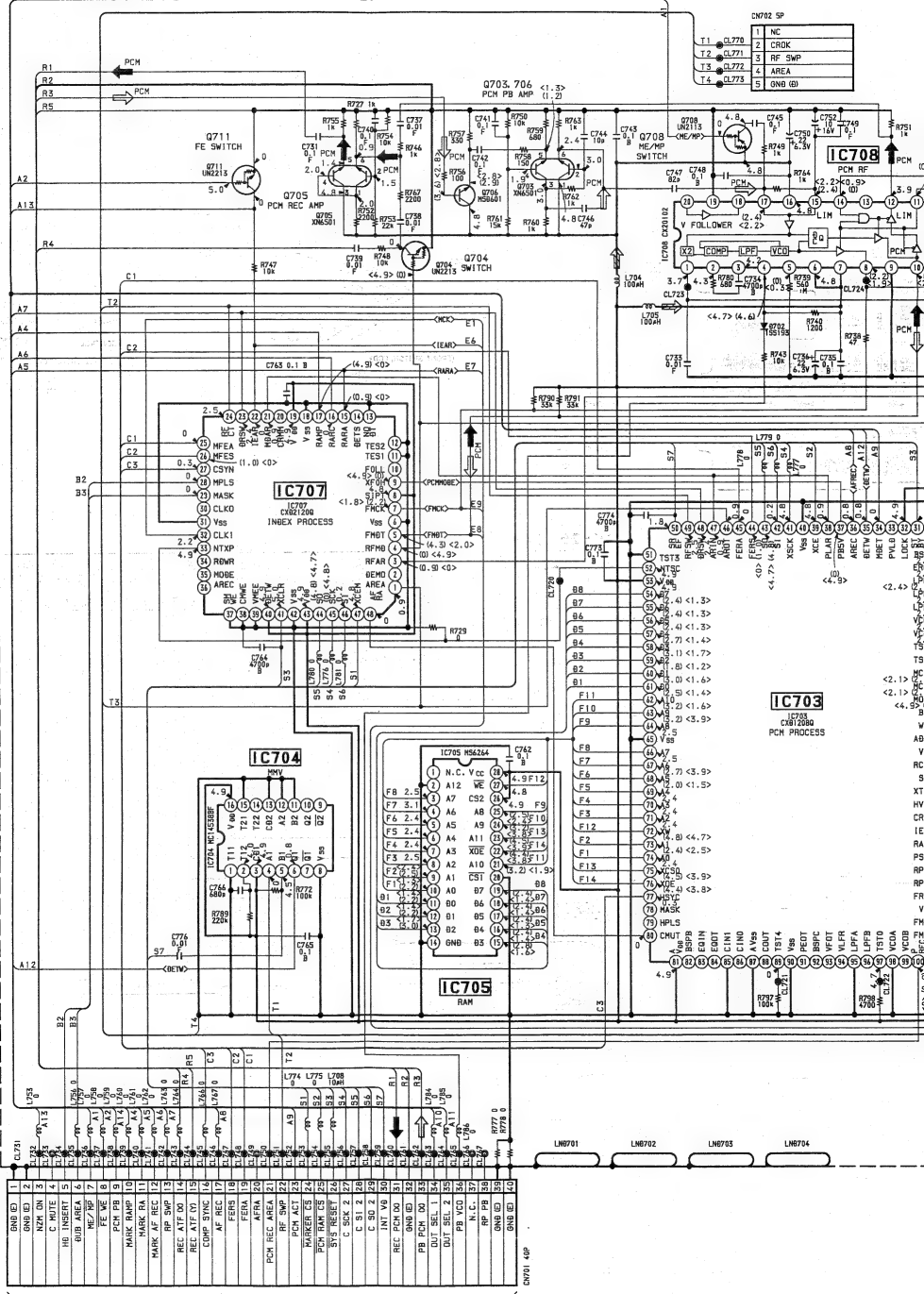
PC-61 BOARD (COMPONENT SIDE)

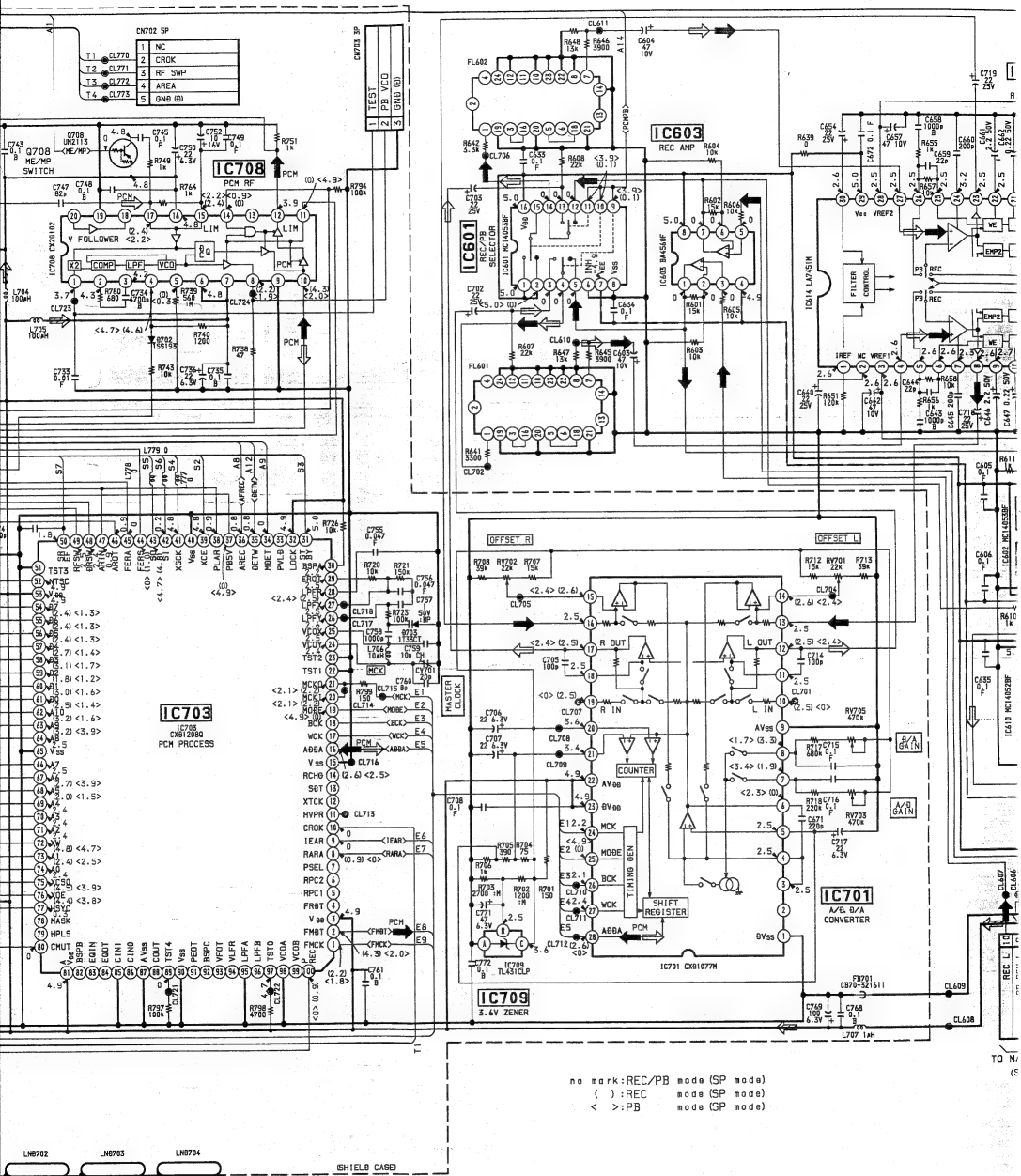


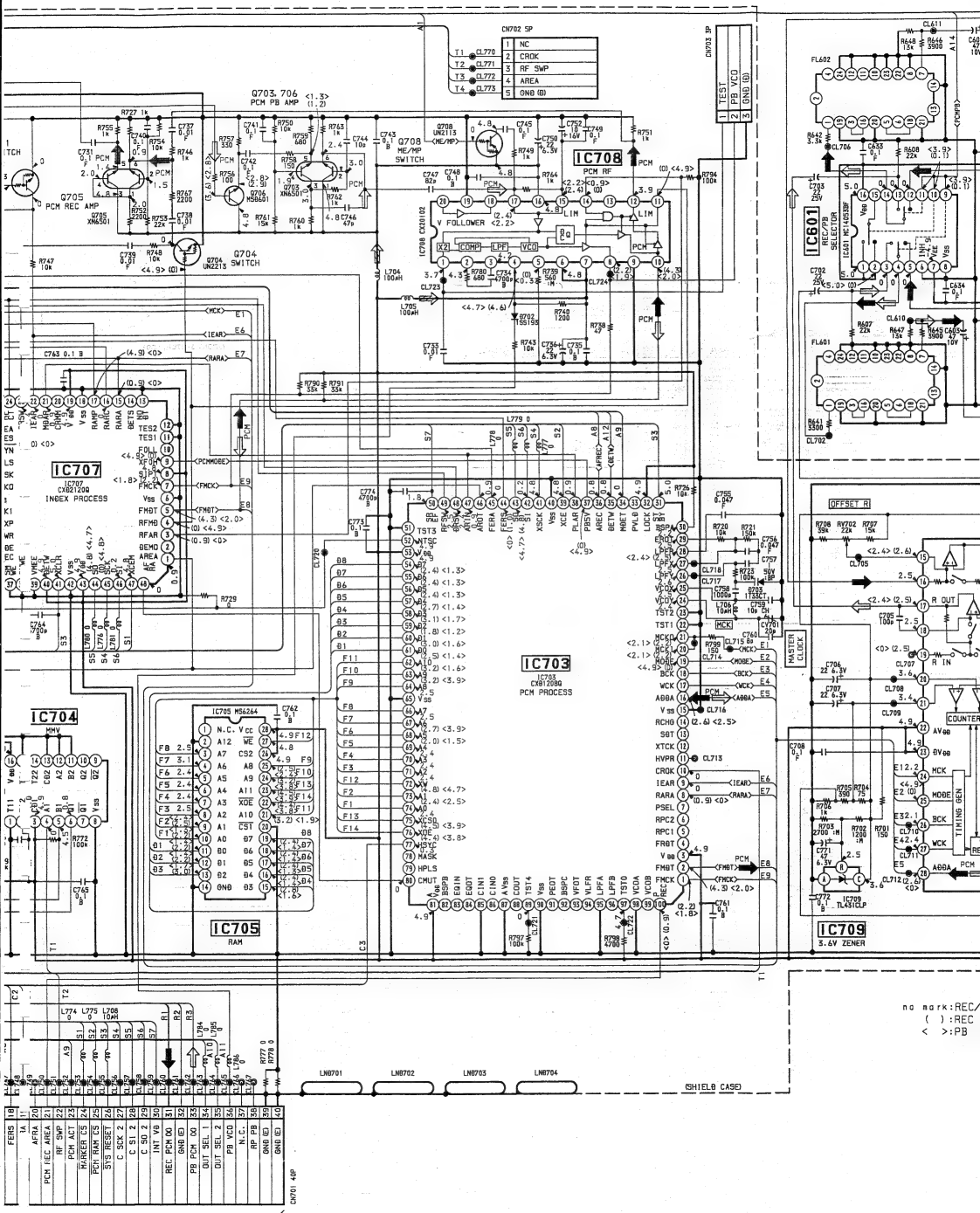
PC-61 BOARD (CONDUCTOR SIDE)

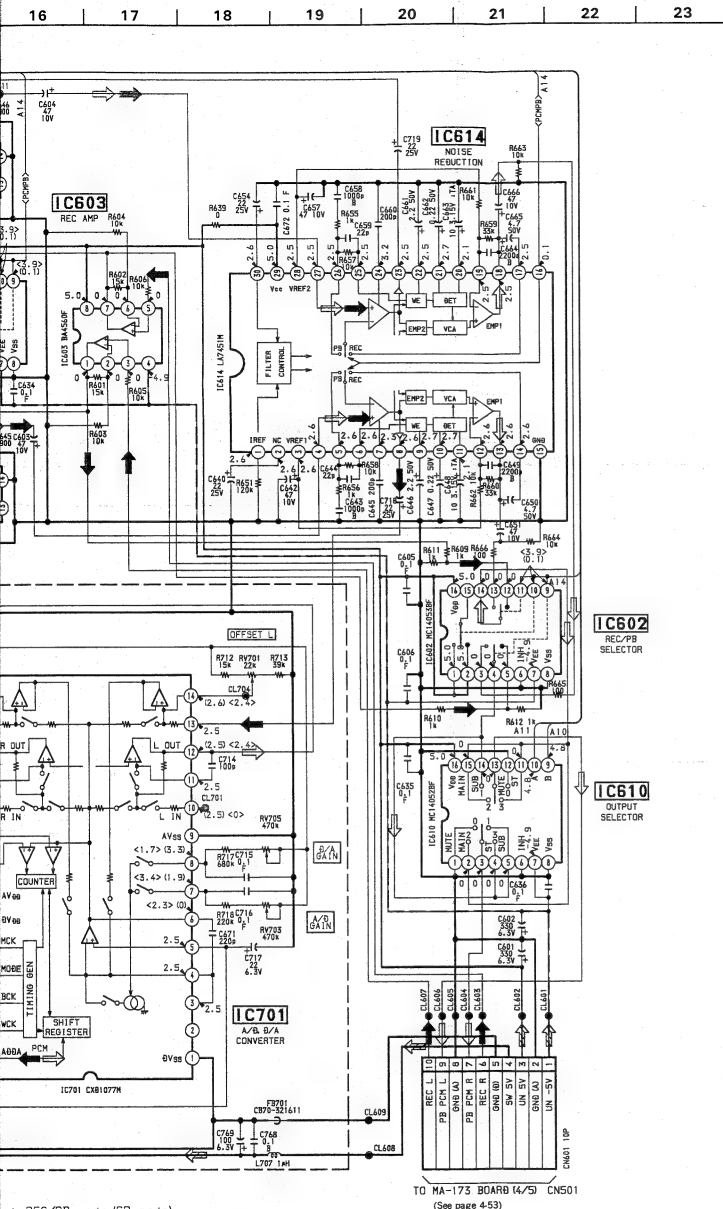


PC-61 BOARD









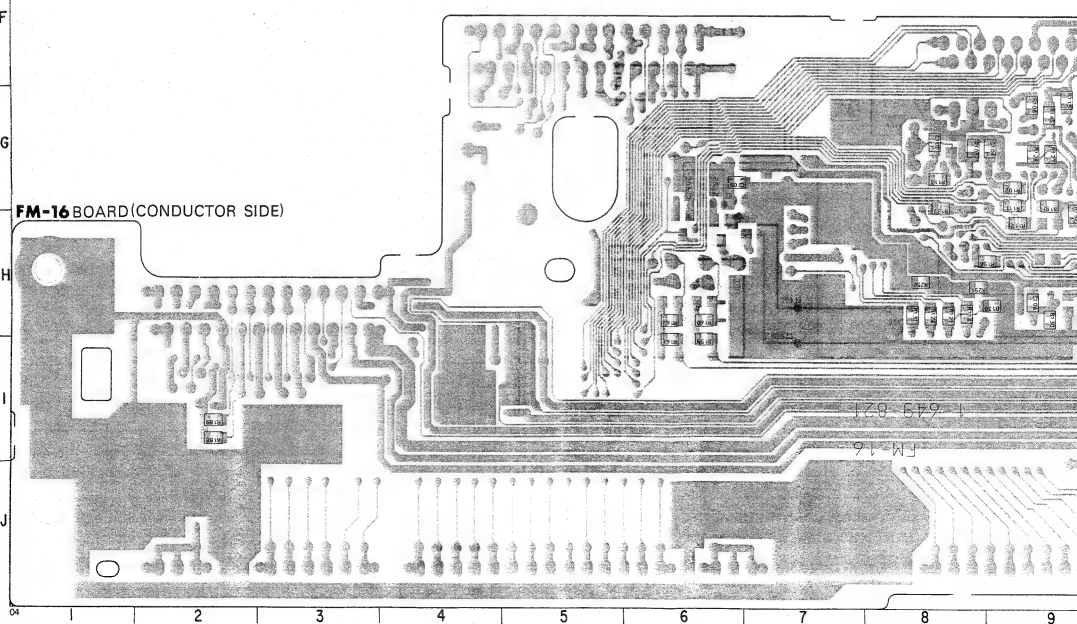
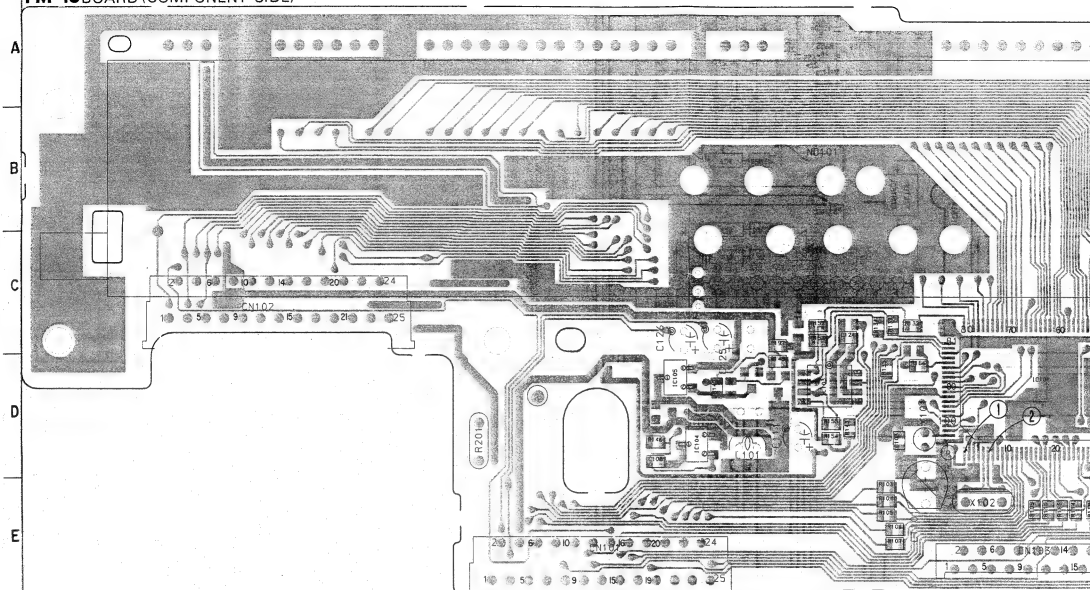
* Signal path

AUDIO Signal	
REC	→
PB	⇄

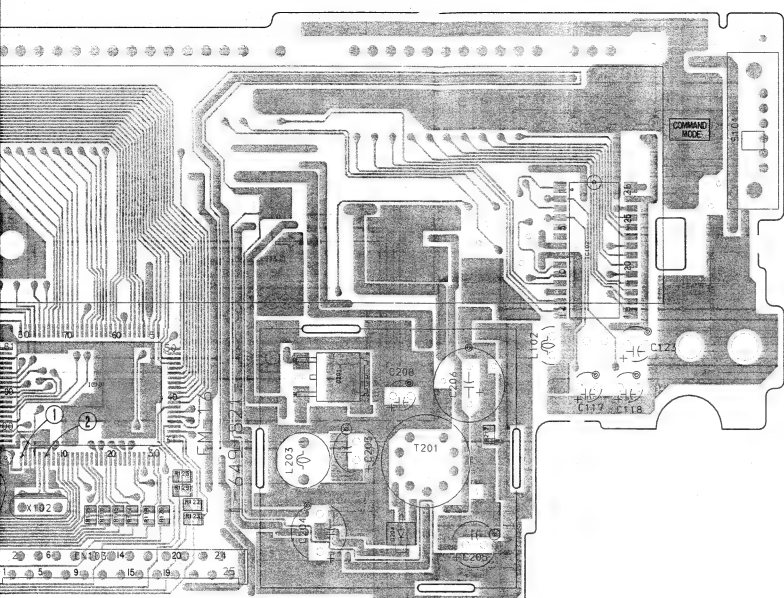
FM-16 (TUNER/TIMER CONTROL), TK-26 (RELAY), SW-227 (TRAY SWITCH),
TM-119 (TRAY MOTOR) PRINTED WIRING BOARDS

—Ref. No. FM-16, TK-26, SW-227 and TM-119 BOARD: 7000 series—

FM-16 BOARD (COMPONENT SIDE)



FM-16 BOARD (CONDUCTOR SIDE)



FM16 BOARD
 CN101 E-5
 CN102 C-2
 CN103 E-9

D201 G-12
 D202 H-12
 D203 H-12
 D204 E-11

IC101 D-9
 IC102 C-13
 IC103 D-7
 IC104 D-6
 IC105 D-6
 IC201 H-11

Q102 I-12
 Q103 I-12
 Q201 D-11

TM-119 (TRAY

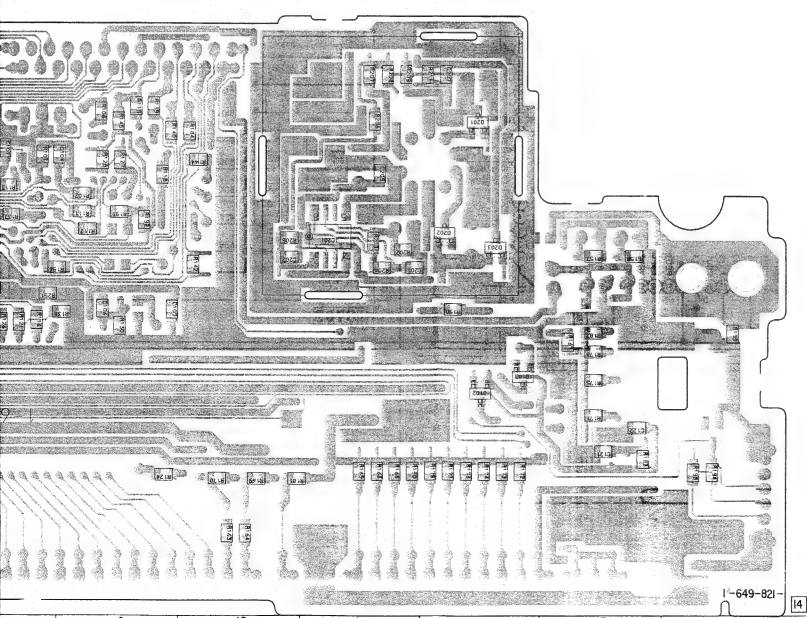
SW-227 (TRAY SW)

TC-30 (TRANSCODER)

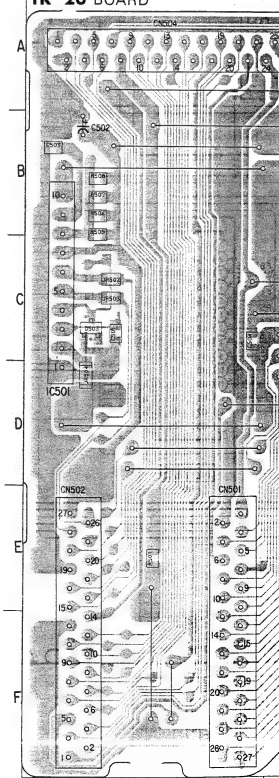
FL-57 (LINE IN 2, POWER SW)

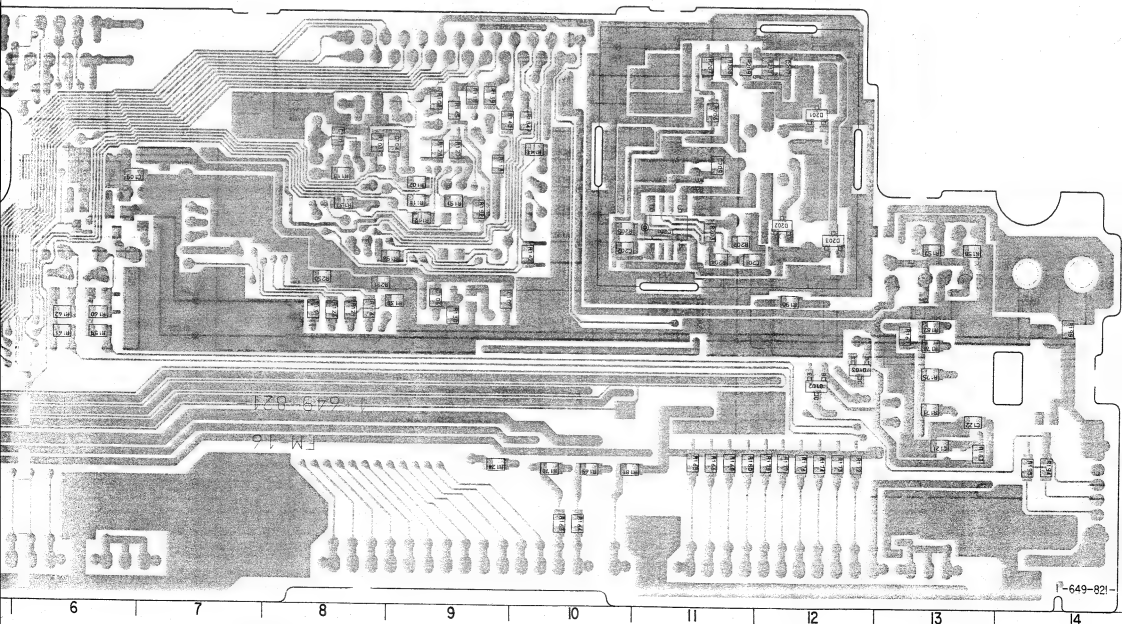
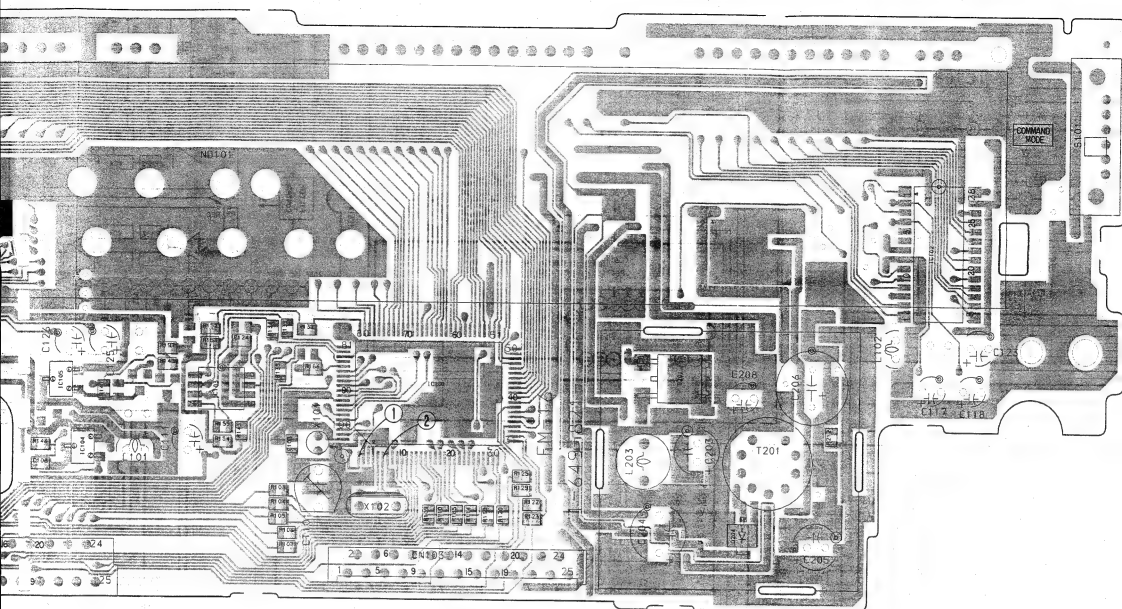
FR-82 (FRONT SWITCH, L)

TK-26 BOARD
 CN501 E-2
 CN502 E-1
 CN503 A-4
 CN504 A-2
 CN507 C-4
 CN508 C-4
 B503 C-1
 IC501 C-1



TK-26 BOARD



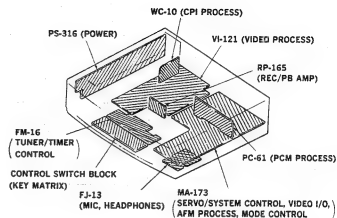
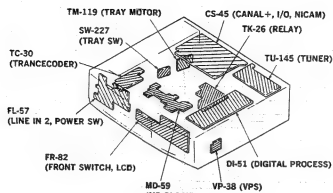


FM-16 BOARD
CN101 E-5
CN102 C-2
CN103 E-9

D201 G-12
D202 H-12
D303 H-12
D304 E-11

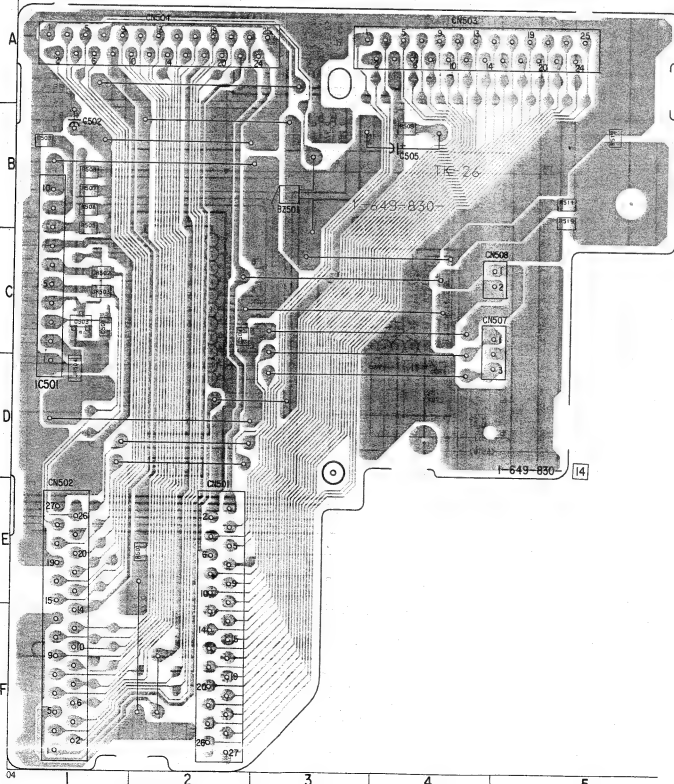
IC101 D-9
IC102 C-13
IC103 D-7
IC104 D-6
IC105 D-6
IC201 H-11

Q102 I-12
Q103 I-12
Q201 D-11

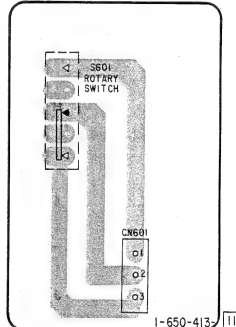


TK-26 BOARD
CN501 E-2
CN502 E-1
CN503 A-4
CN504 A-2
CN507 C-4
CN508 C-4
D503 C-1
D501 C-1

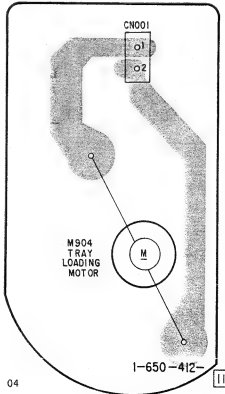
TK-26 BOARD



SW-227 BOARD



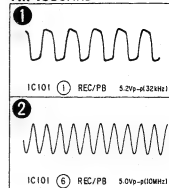
TM-119 BOARD



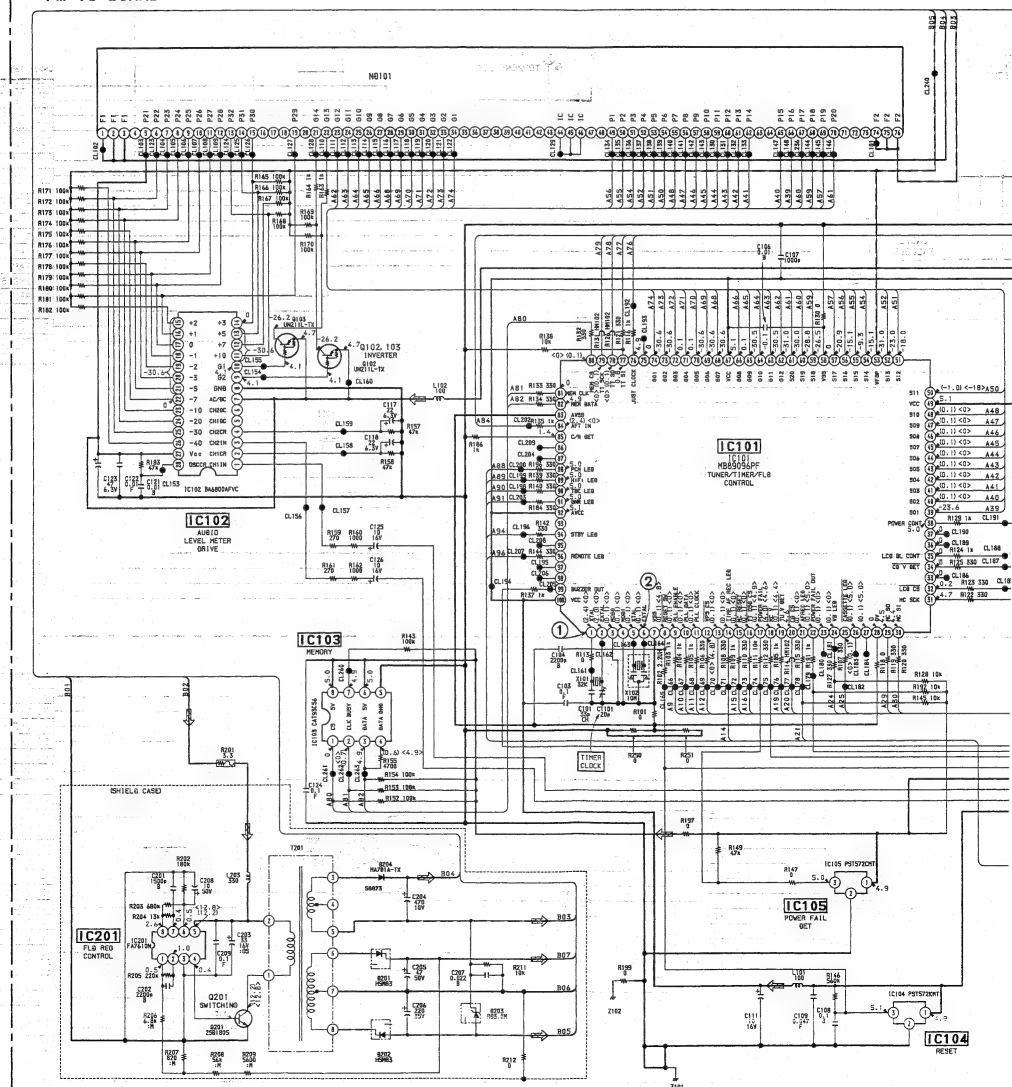
**FM-16 (TUNER/TIMER CONTROL), TK-26 (RELAY), SW-227 (TRAY SWITCH),
TM-119 (TRAY MOTOR) SCHEMATIC DIAGRAMS**

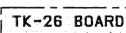
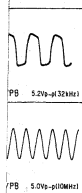
—Ref. No. FM-16, TK-26, SW-227 and TM-119 BOARD: 7000 series—

FM-16 BOARD

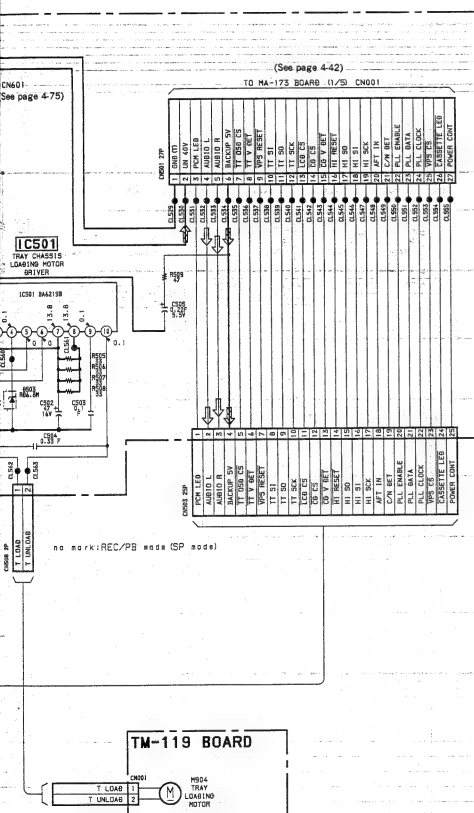


FM-16 BOARD





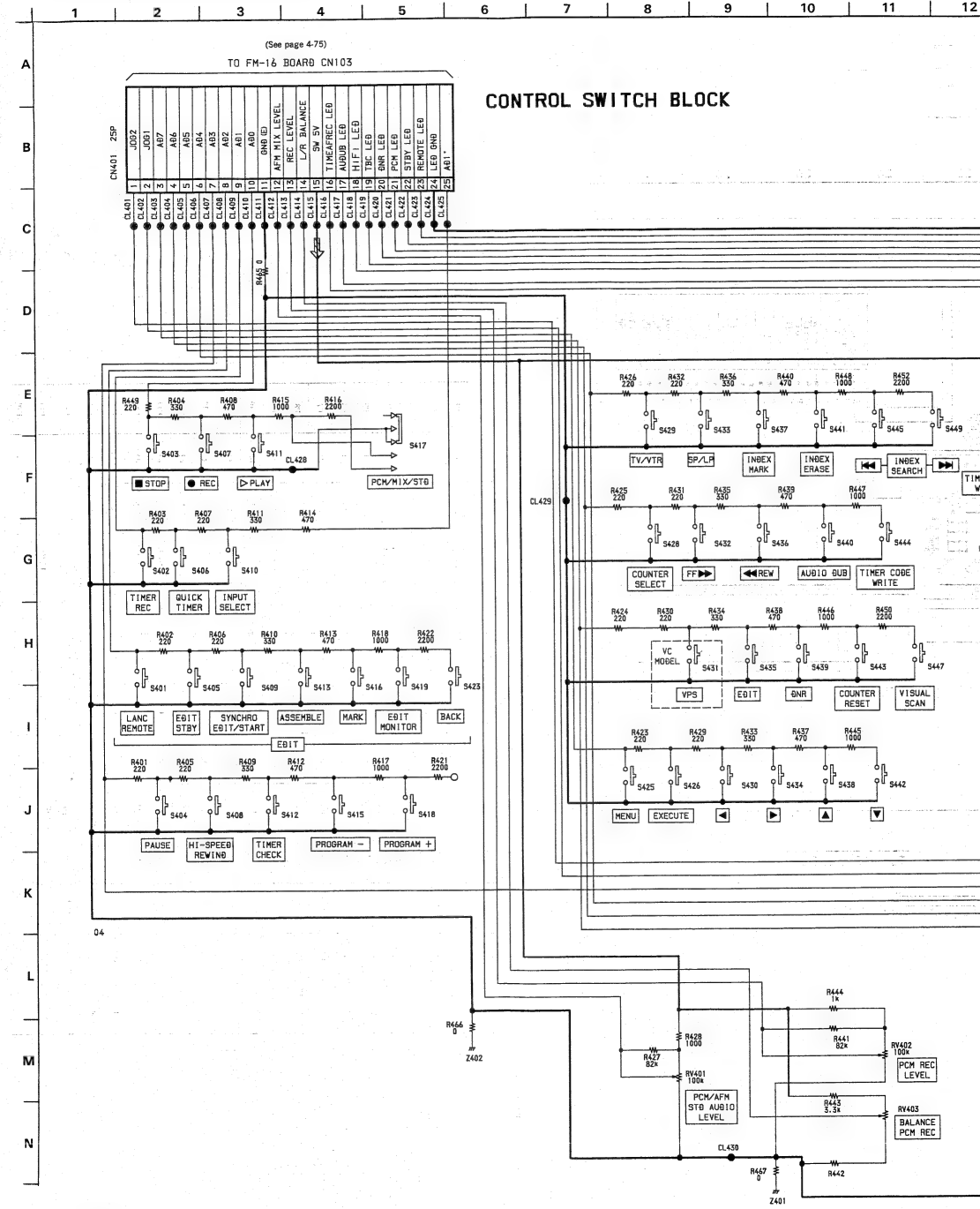


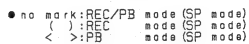
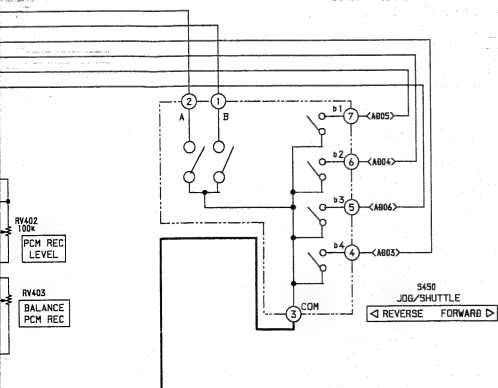


P21	R1	L1
P22	R2	L2
P23	R3	L3
P24	R4	L4
P25	R5	L5
P26	R6	L6
P27	R7	L7
P28	R8	L8
P29	R9	L9
P30	R10	L10
P31	R11	L11
P32	R12	L12

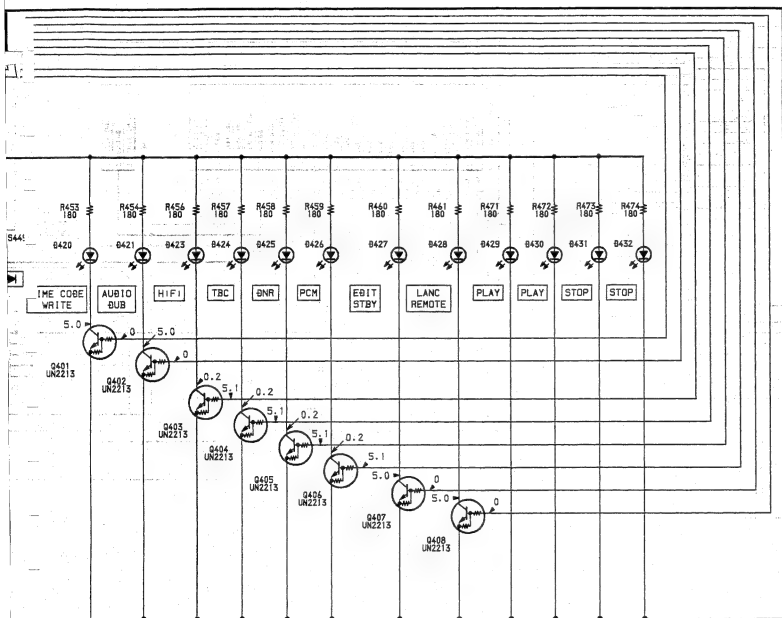
10G	11G	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G
P1	a1	a1	a1	—	a1	T1	a1	—	SYNCHRO EDIT	VFS	a1
P2	b1	b1	b1	—	b1	T2	b1	—	SP	—	b1
P3	f1	f1	f1	EVERY WEEK	f1	T3	f1	—	EDIT	—	f1
P4	g1	g1	g1	—	g1	T4	g1	—	AUDIO DUB	—	g1
P5	c1	c1	c1	—	c1	T5	c1	—	—	—	c1
P6	e1	e1	e1	—	e1	T6	e1	—	NICAM	PGC	e1
P7	d1	d1	d1	We	d1	T7	d1	—	—	TUNER	d1
P8	ASSEMBLE	D	START	—	—	T8	AM	—	—	—	AM
P9	a2	a2	a2	a2	a2	S _ _ _ E	a2	④	SUB	a2	a2
P10	b2	b2	b2	b2	b2	T9	b2	⑤	—	b2	b2
P11	f2	f2	f2	f2	f2	T10	f2	④	—	f2	f2
P12	g2	g2	g2	g2	g2	T11	g2	⑤	SAP	g2	g2
P13	c2	c2	c2	c2	c2	T12	c2	⑥	R	c2	c2
P14	e2	e2	e2	e2	e2	T13	e2	①	MAIN	e2	e2
P15	d2	d2	d2	d2	d2	T14	d2	⓪	AUTO	d2	d2
P16	IN	H	—	—	M	T15	PM	⑦	—	I	PM
P17	OUT	—	Su	—	(DOWN)	VTR	F	—	LP	CH	S
P18	INDEX	TIME CODE	STOP	Mo	(UP)	CATV	TIMER	—	L	—	—
P19	SCAN	REMAIN	—	Tu	(DOWN)	LINE	REC	—	STEREO	—	Sa

CONTROL SWITCH BLOCK (SWITCH MATRIX), MD-59 (MD BLOCK) SCHEMATIC DIAGRAMS
—Ref. No. CONTROL SWITCH BLOCK: 7000 series, MD-59 BOARD: 4000 series—

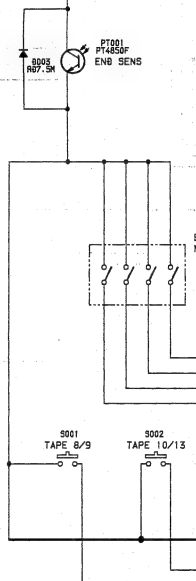




- Abbreviations
- UB:UK
- AE:Italian
- VC:German
- B:French
- NP:North European

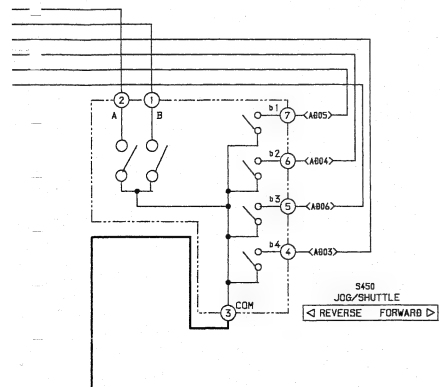


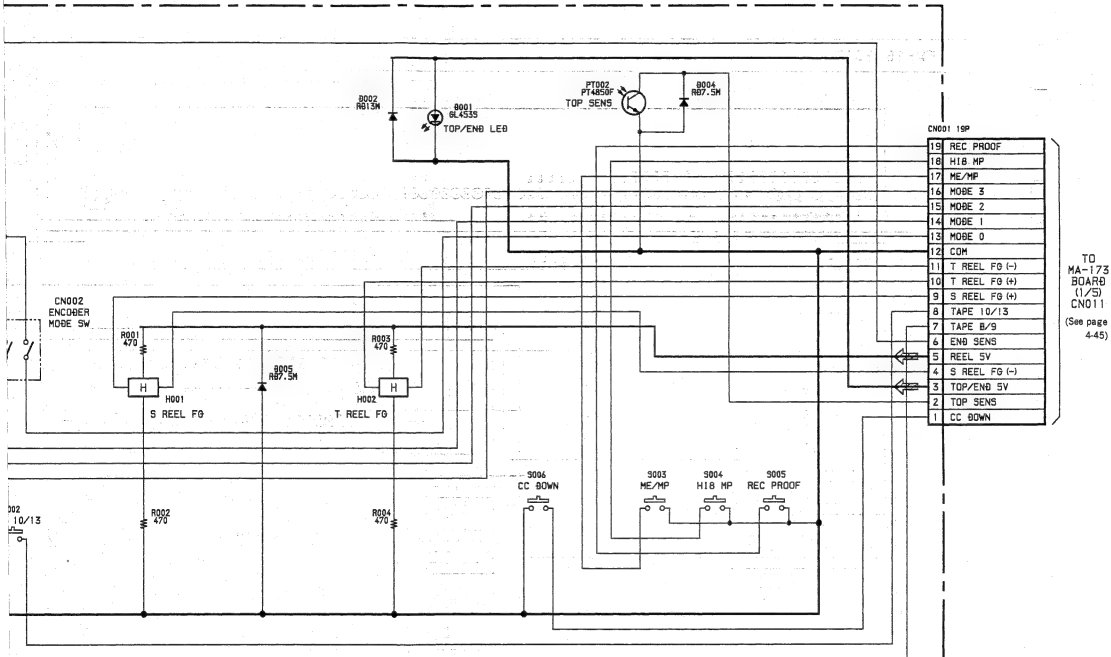
MD-59 BOARD



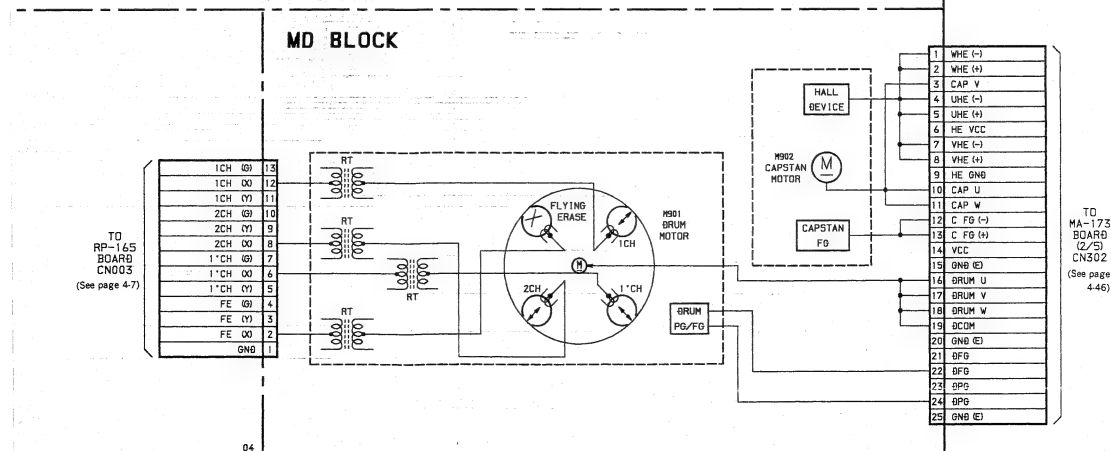
● no mark: REC/PB mode (SP mode)
 () : REC mode (DCP mode)
 < > : PB mode (CP mode)

● Abbreviations
 UB: UK
 AE: Italian
 VC: German
 B: French
 NP: North European





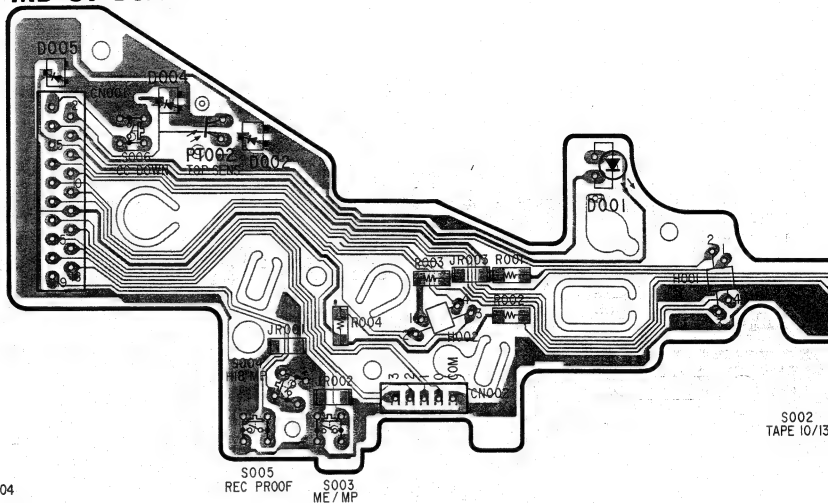
TO
MA-173
BOARD
(1/5)
CN011
(See page
4-45)



TO
MA-173
BOARD
(2/5)
CN002
(See page
4-46)

CONTROL SWITCH BLOCK (SWITCH MATRIX), MD-59 (MD BLOCK) PRINTED WIRING BOARDS
 —Ref. No. CONTROL SWITCH BLOCK: 7000 series, MD-59 BOARD: 4000 series—

MD-59 BOARD



CONTROL SWITCH BLOCK
 CN401 A-6

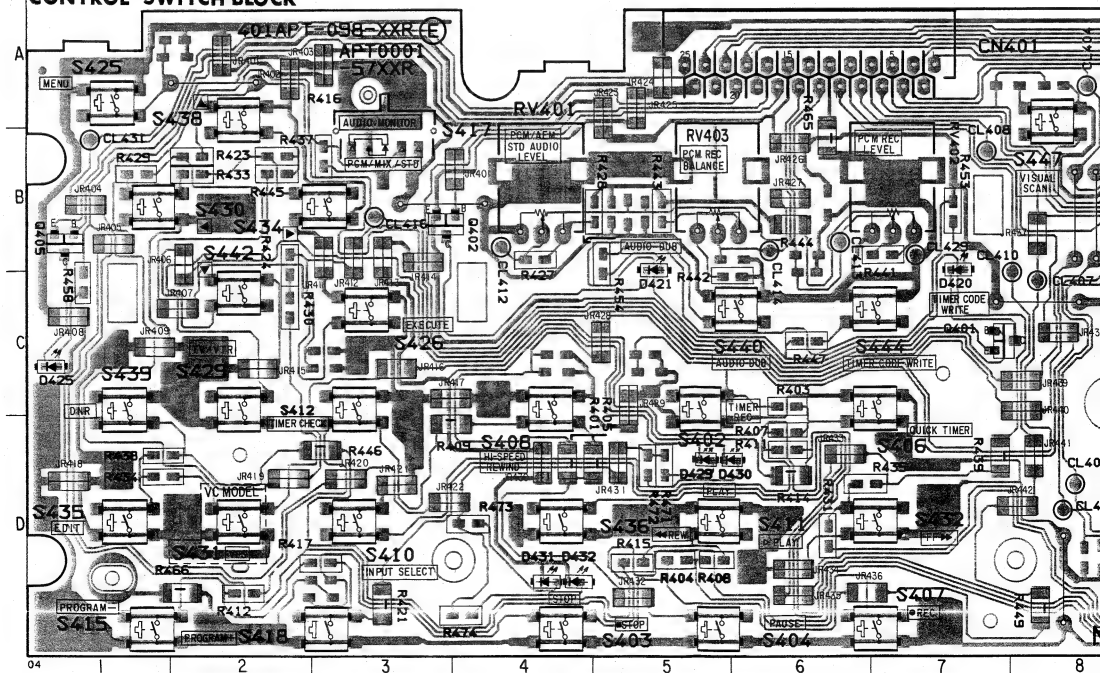
D420 C-7
 D421 C-5
 D423 A-13
 D424 A-13
 D425 C-1
 D426 A-14
 D427 D-12
 D428 C-12
 D429 D-6
 D430 D-6
 D431 D-4
 D432 D-4

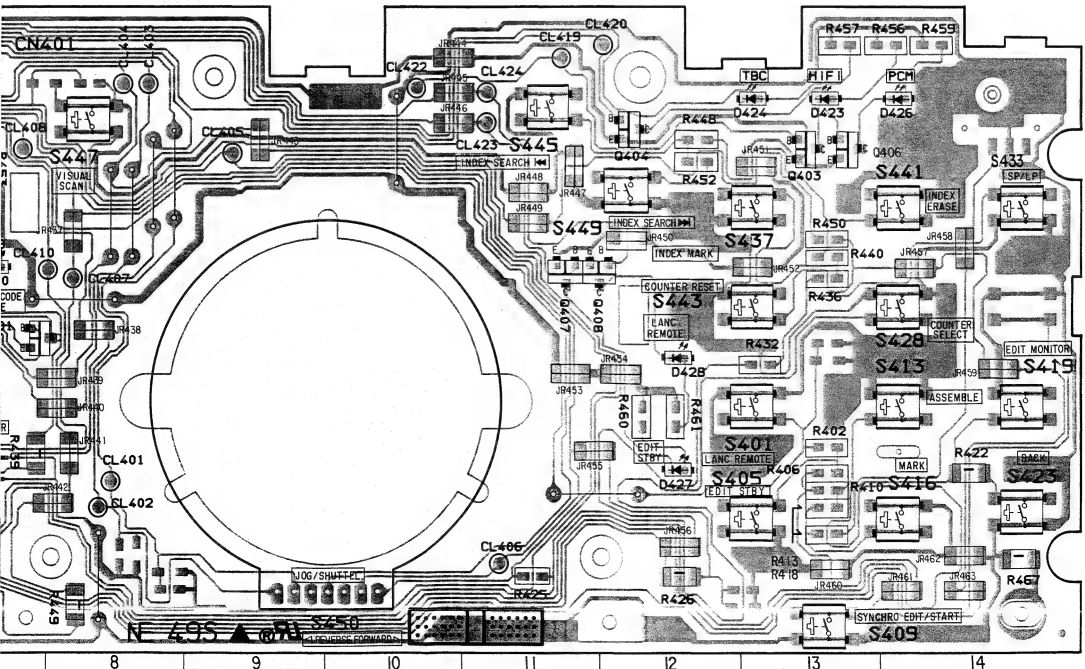
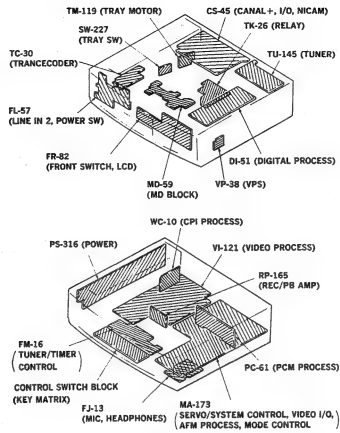
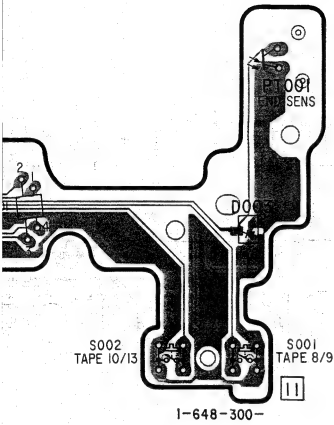
Q401 C-7
 Q402 B-3
 Q403 B-13
 Q404 B-12
 Q405 B-1
 Q406 B-13
 Q407 C-11
 Q408 C-11

04

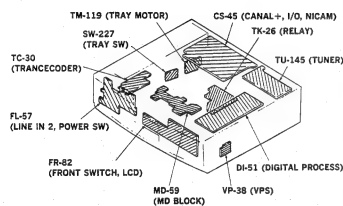
S002
 TAPE 10/13

CONTROL SWITCH BLOCK





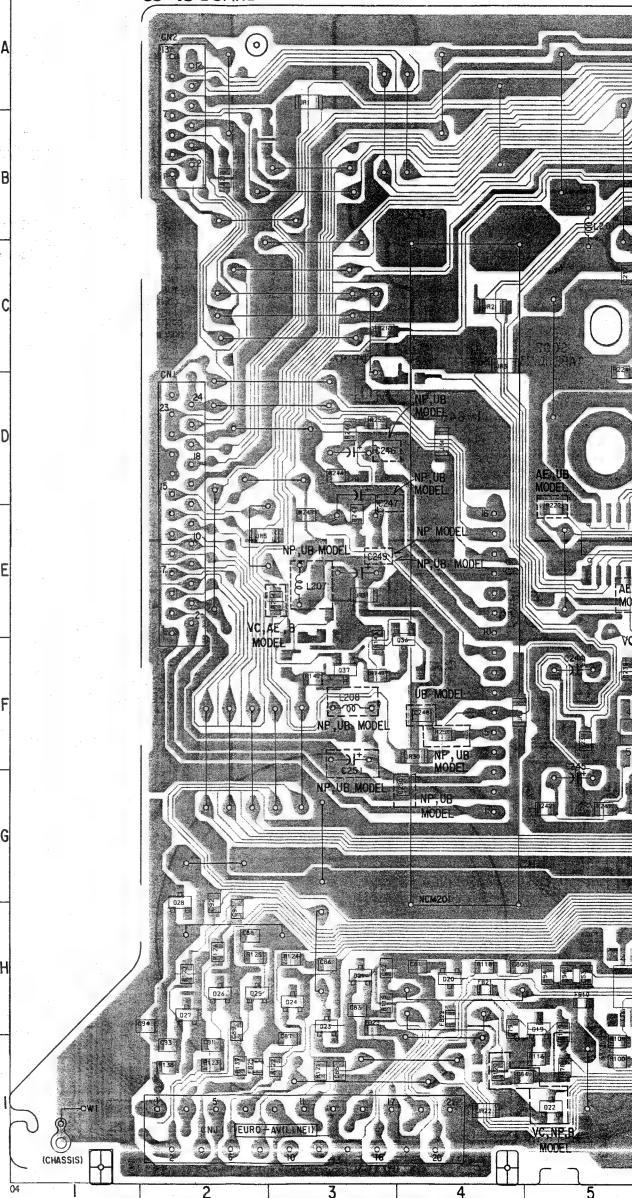
CS-45 (CANAL+, I/O, NICAM) PRINTED WIRING BOARD
—Ref. No. CS-45 BOARD: 5000 series—

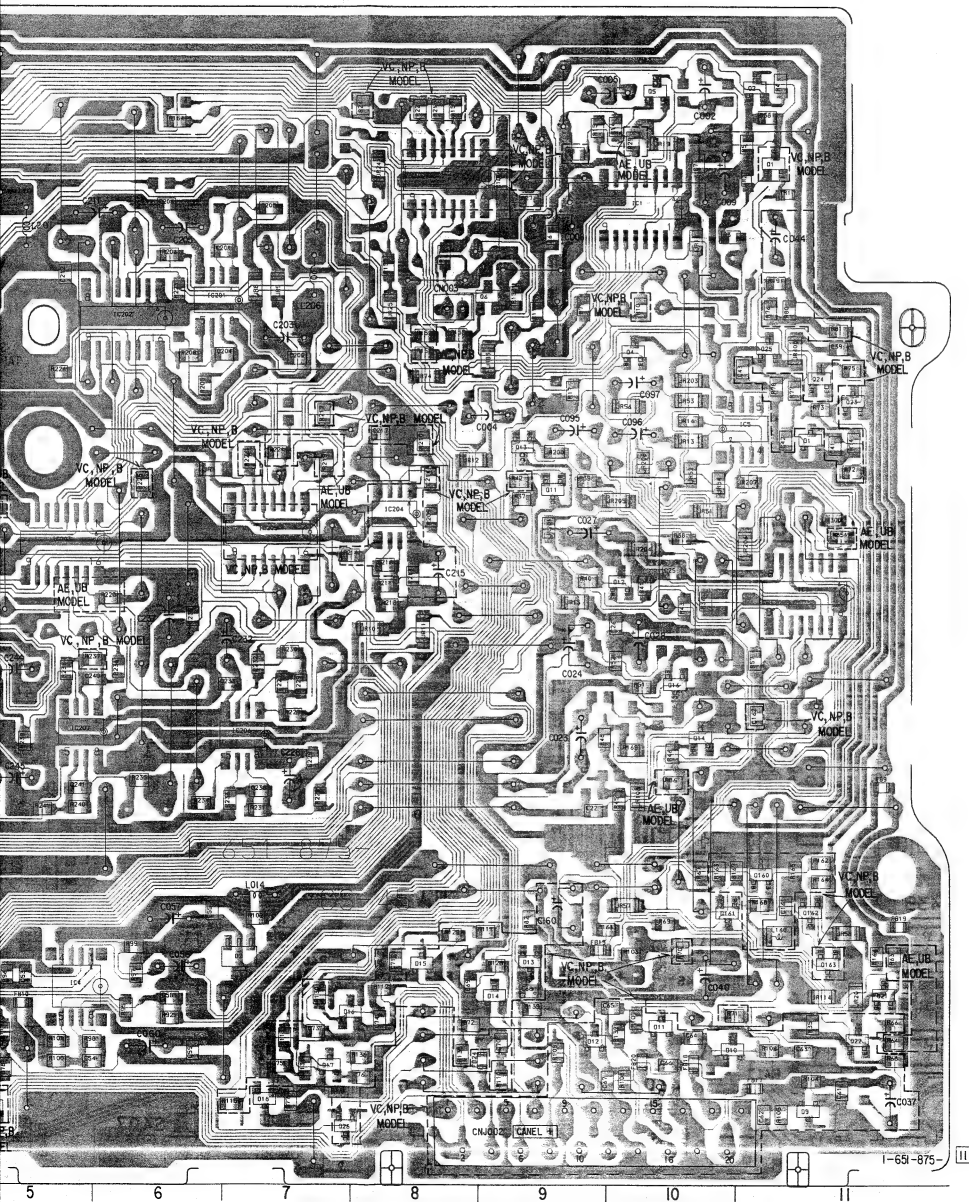


CS-45 BOARD

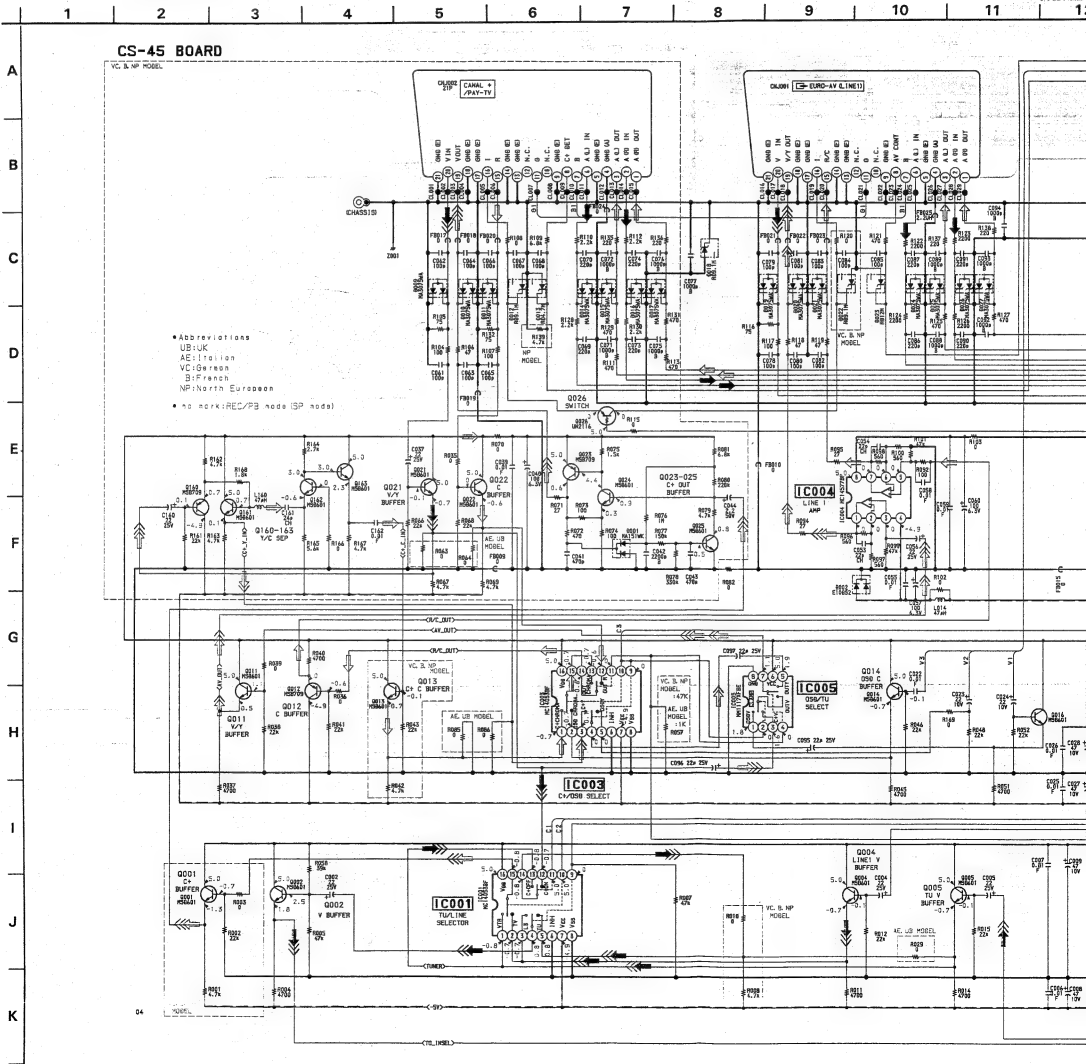
CH001	D-2
CH002	A-2
CH003	C-8
D001	D-11
D002	H-7
D009	I-11
D010	I-10
D011	H-10
D012	I-9
D013	H-9
D014	H-9
D015	H-8
D016	H-8
D017	I-7
D018	I-7
D019	H-5
D020	H-4
D021	H-3
D022	I-5
D023	H-3
D024	H-3
D025	H-2
D026	H-2
D027	H-2
D028	H-2
IC001	B-10
IC002	B-8
IC003	E-11
IC004	H-5
IC005	D-11
IC201	C-6
IC202	C-6
IC203	E-5
IC204	E-8
IC205	E-7
IC206	F-7
IC207	F-5
Q001	B-11
Q002	A-11
Q004	C-10
Q005	A-10
Q006	C-9
Q011	D-9
Q012	E-10
Q013	D-9
Q014	F-10
Q016	F-10
Q021	H-11
Q022	I-11
Q023	D-11
Q024	D-11
Q025	C-11
Q026	I-7
Q036	F-4
Q037	F-3
Q160	G-11
Q161	H-10
Q162	H-11
Q163	H-11

CS-45 BOARD



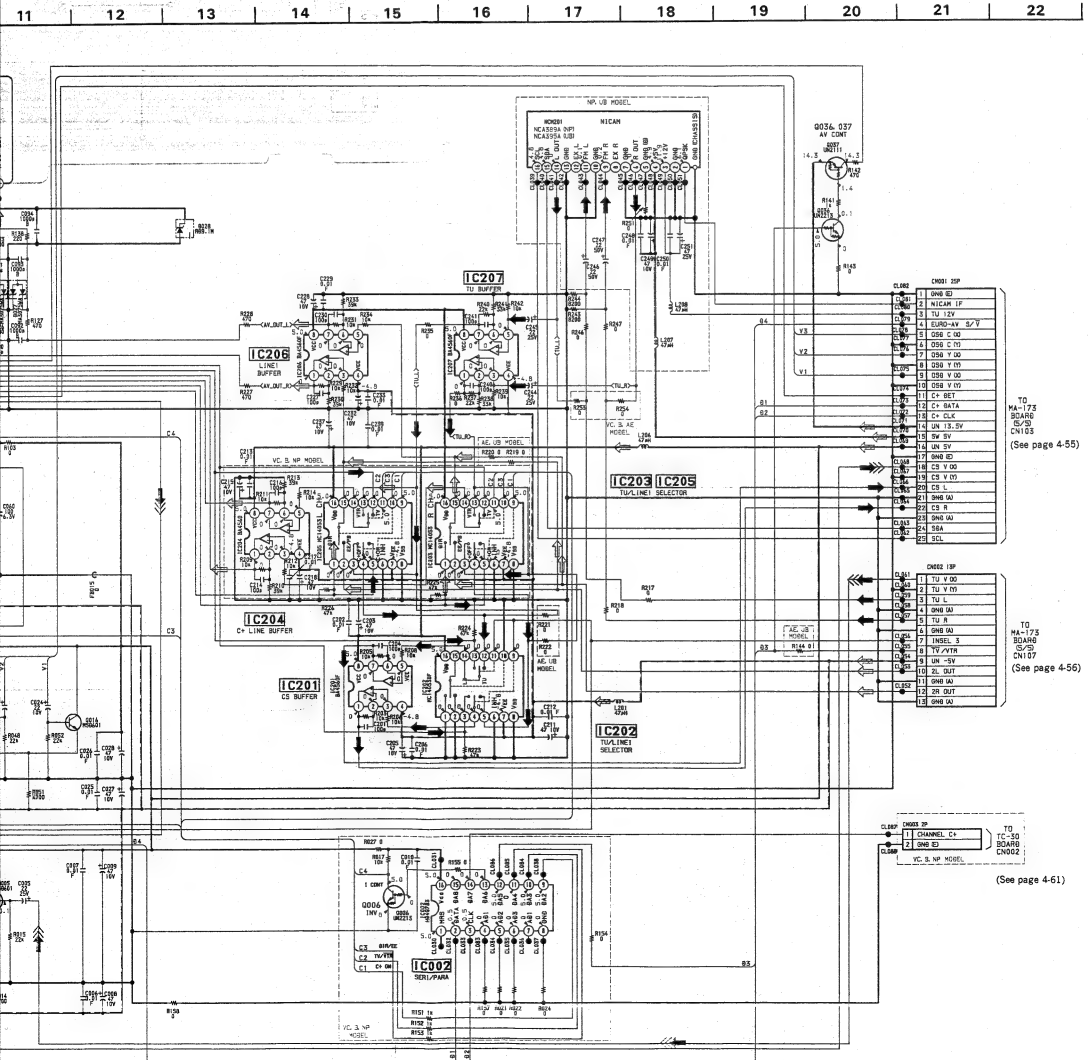


CS-45 (CANAL+, I/O, NICAM) SCHEMATIC DIAGRAM
 —Ref. No. CS-45 BOARD: 5000 series—



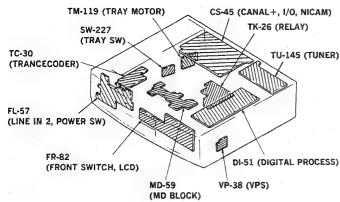
• Signal path

	VIDEO Signal			AUDIO Signal
	CHROMA	Y	Y/CHROMA	
REC	→	→	→	→
PB	→	→	→	→

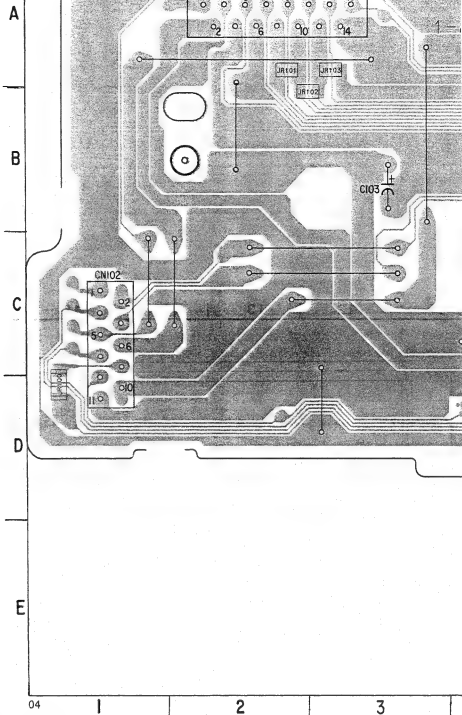


FR-82 (FRONT SWITCH, LCD), FL-57 (LINE IN2, POWER SWITCH) PRINTED WIRING BOARDS

—Ref. No. FR-82 and FL-57 BOARDS : 6000 series—



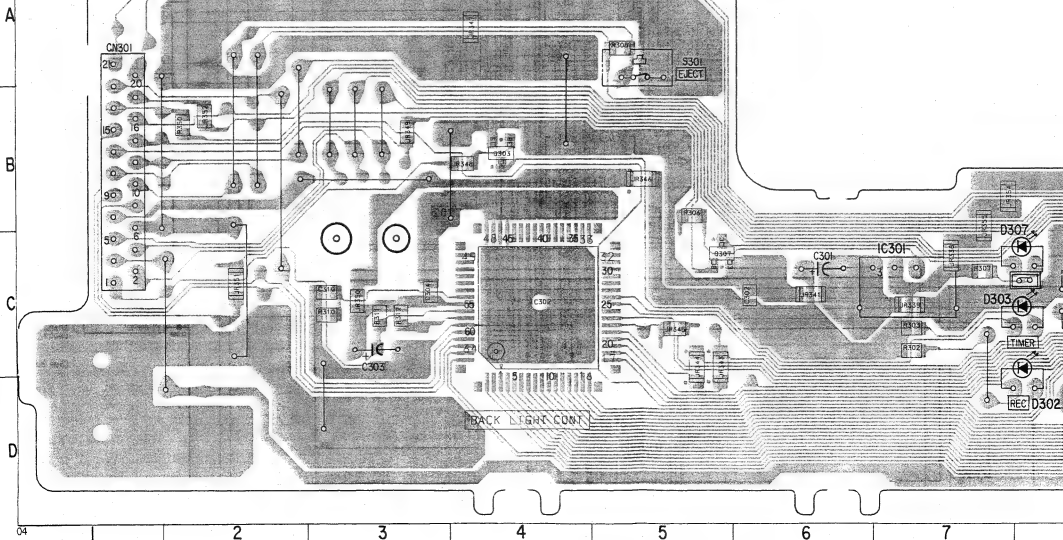
FL-57 BOARD

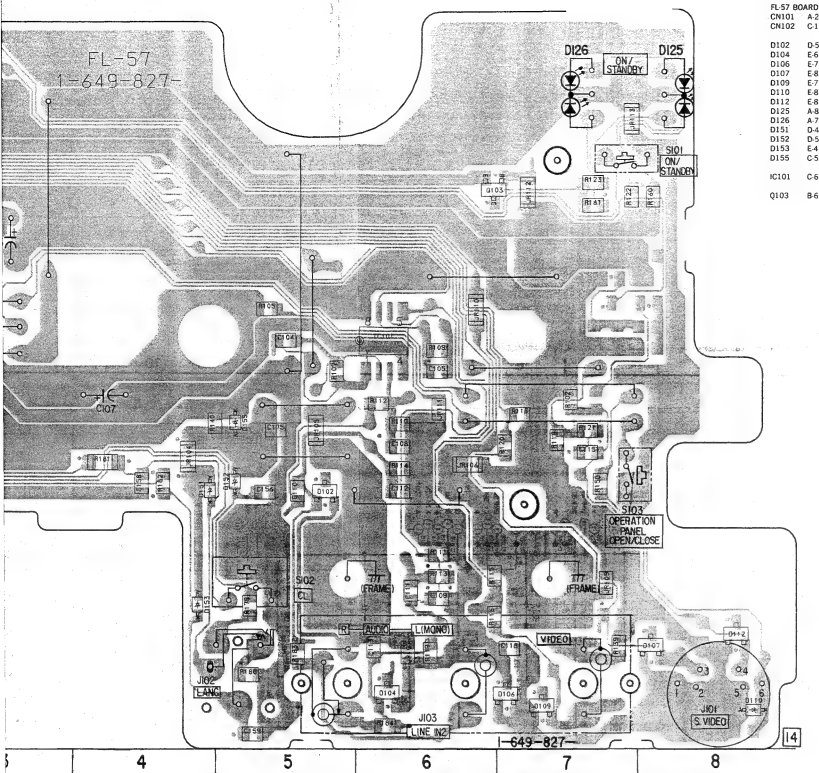


FR-82 BOARD

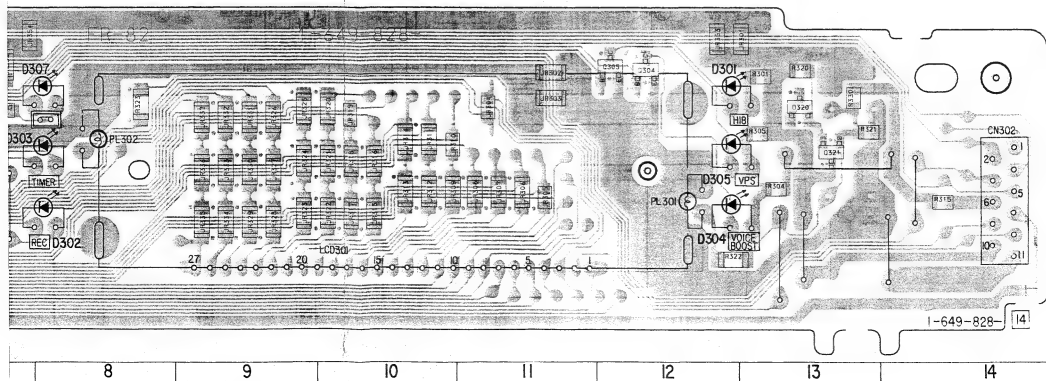
CN301	A-1
CN302	C-14
D301	C-12
D302	D-8
D303	C-8
D304	D-12
D305	C-12
D307	C-8
D320	C-13
IC301	C-7
IC302	C-4
Q303	B-2
Q304	C-12
Q305	C-12
Q307	C-5
Q321	C-13

FR-82 BOARD





FL-57 BOARD
 CN101 A-2
 CN102 C-1
 D102 D-5
 D104 E-6
 D106 E-7
 D107 E-8
 D109 E-7
 D110 E-8
 D112 E-8
 D125 A-8
 D126 A-7
 D151 D-4
 D152 D-5
 D153 E-4
 D155 C-5
 IC101 C-6
 Q103 B-6



—Ref. No. FR-82 and FL-57 BOARDS: 6000 series—



15

16

17

18

19

20

21

22

23

24

25

26

27

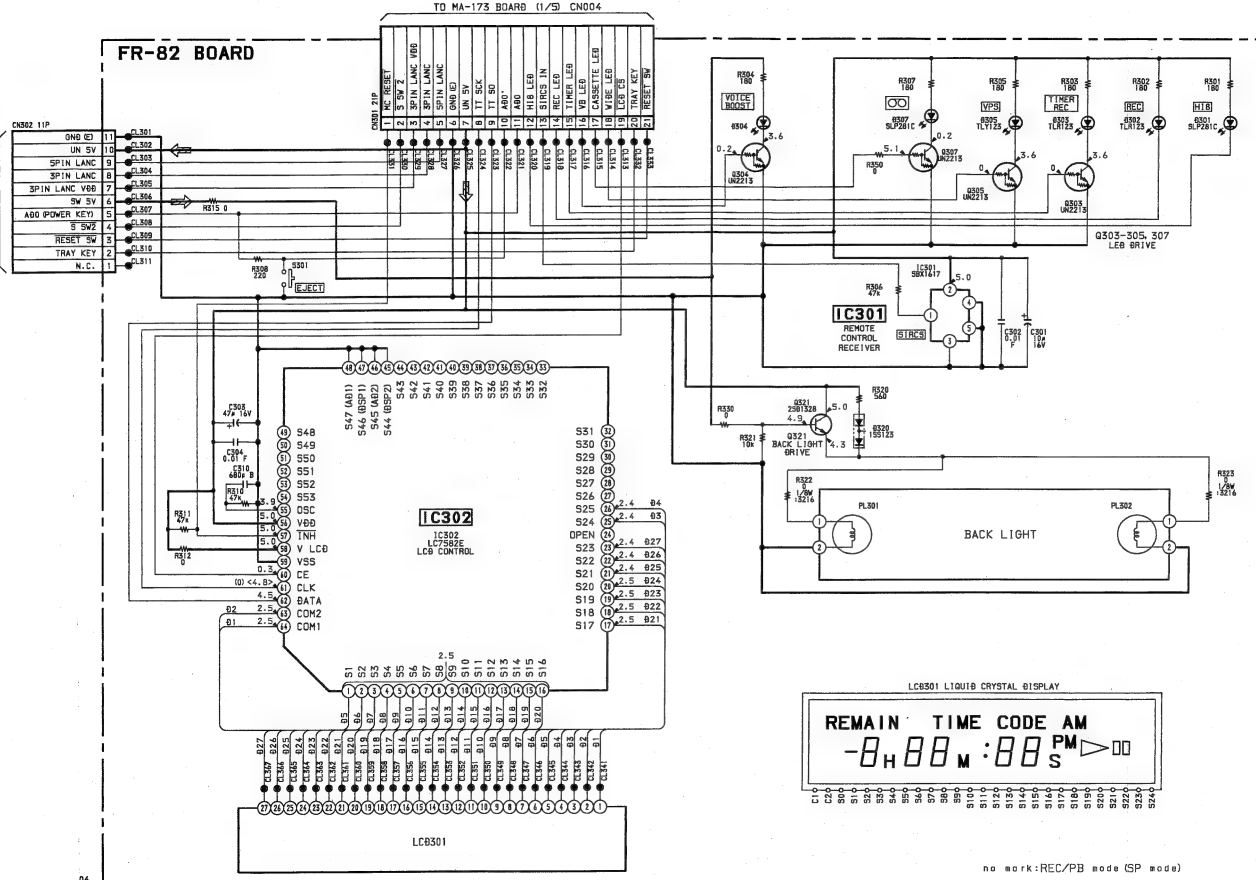
28

29

(See page 4-42)

TO MA-173 BOARD (1/5) CN004

FR-82 BOARD

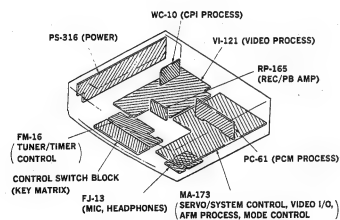
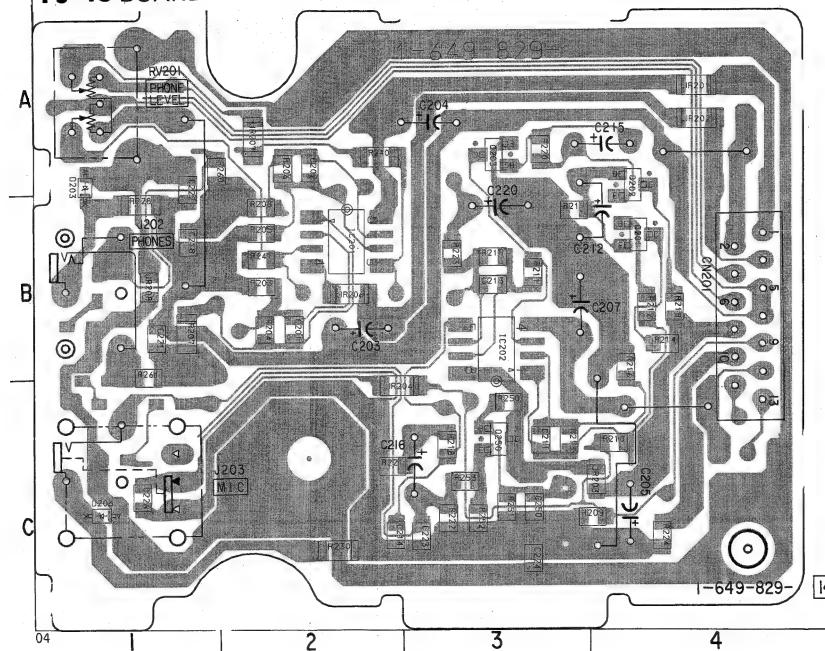


—Ref. No. FJ-13 BOARD: 6000 series—

FJ-13 (MIC, HEADPHONES) SCHE

—Ref. No. FJ-13 BOARD: 6000 se

FJ-13 BOARD	
CN201	B-4
D203	A-1
D206	C-1
IC201	B-2
IC202	B-3
Q201	B-4
Q202	A-4
Q203	A-3
Q250	C-3

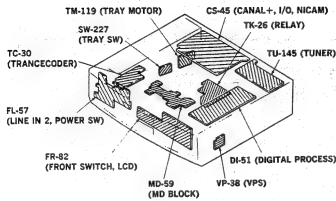
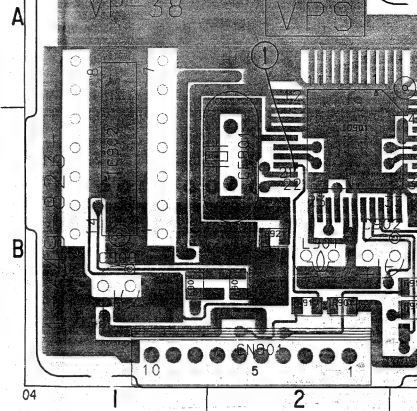
FJ-13 BOARD

	1	2
A		
B		
C		
D	TO MA-173 BOARD (4/5) CN502 (See page 4-51)	CN201 13P L GN UN GN GN S M1 M1 SW
E		04
F		
G		
H		
I		
J		

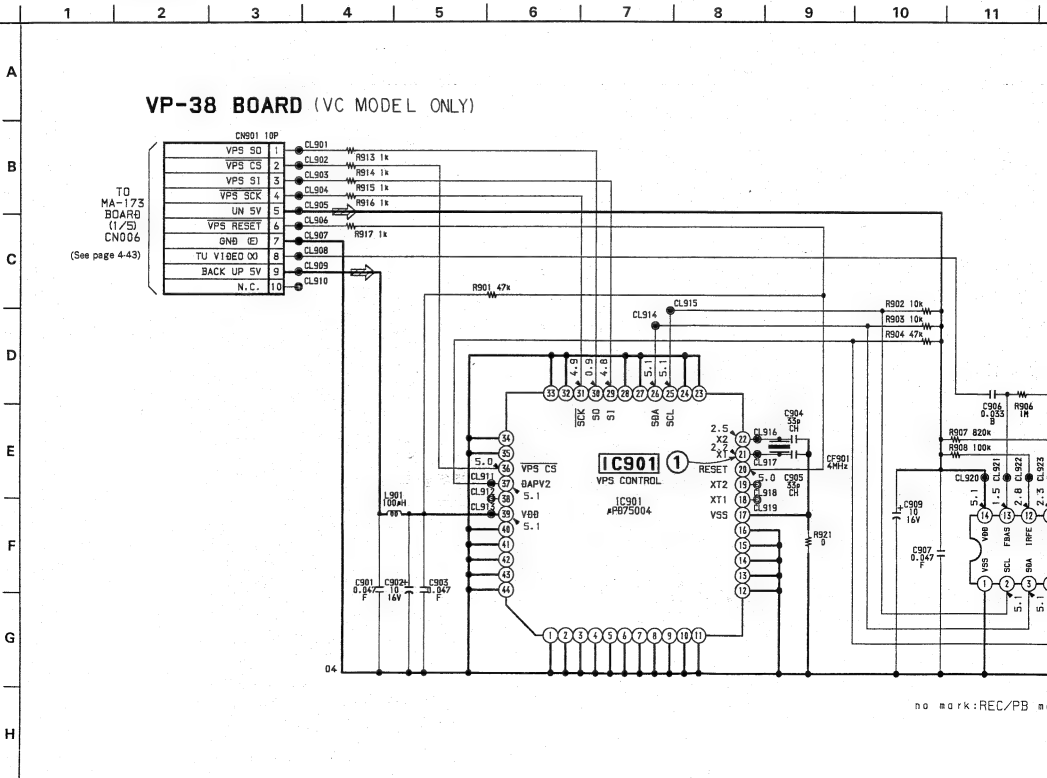
VP-38 (VPS) PRINTED WIRING BOARD
—Ref. No. VP-38 BOARD: 4000 series—

VP-38 BOARD
CN901 B-2
IC901 B-2
IC902 B-1

VP-38 BOARD (COMPONENT SIDE)

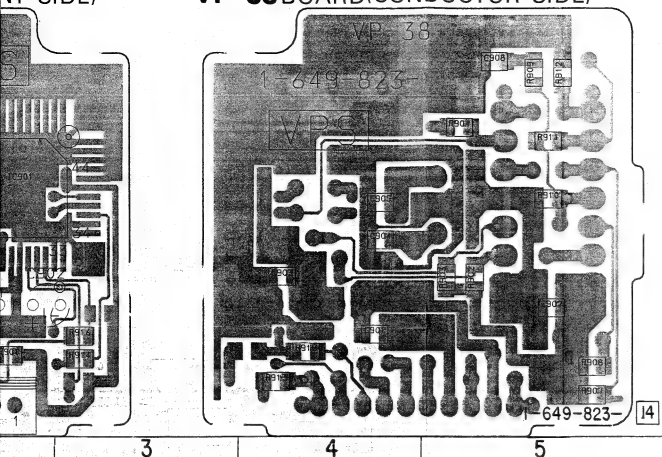


VP-38 (VPS) SCHEMATIC DIAGRAM
—Ref. No. VP-38 BOARD: 4000 series—

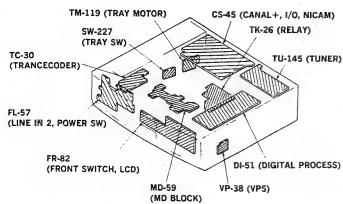


NT SIDE)

VP-38 BOARD(CONDUCTOR SIDE)

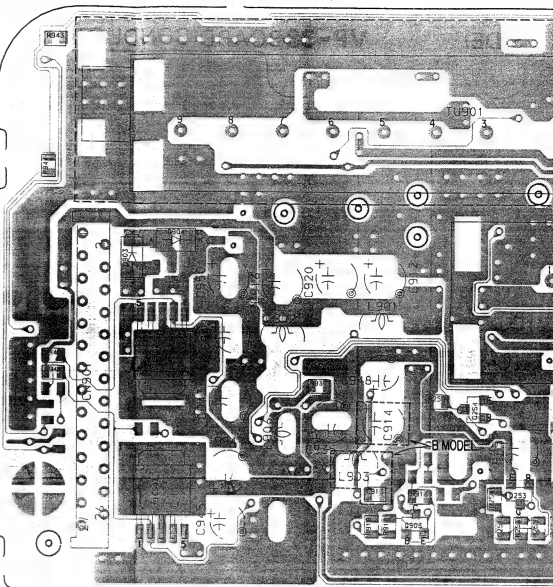


TU-145 (TUNER) PRINTED WIRING BOARD
—Ref. No. TU-145 BOARD: 5000 series—

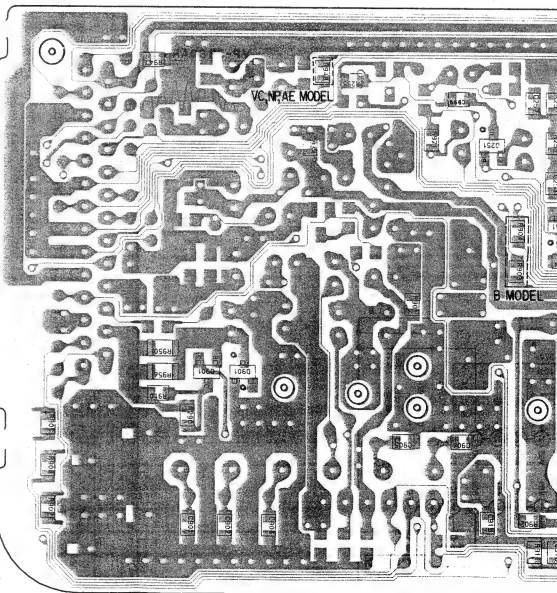


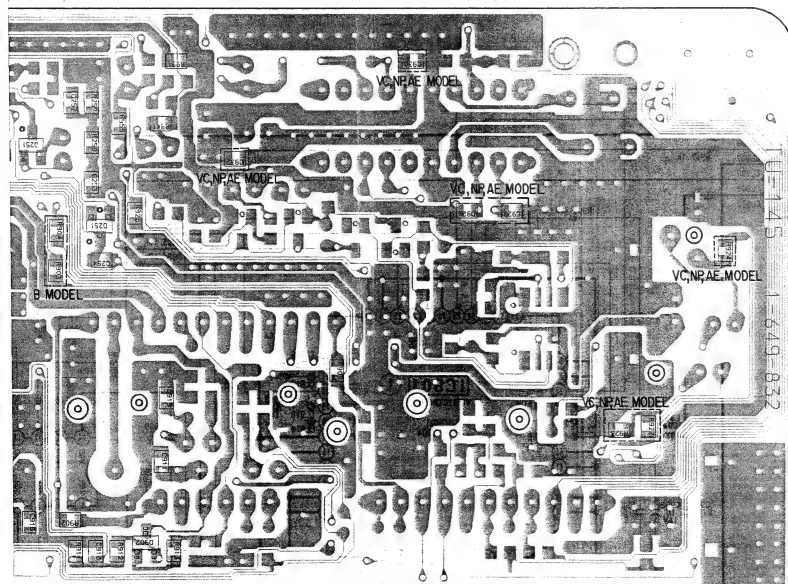
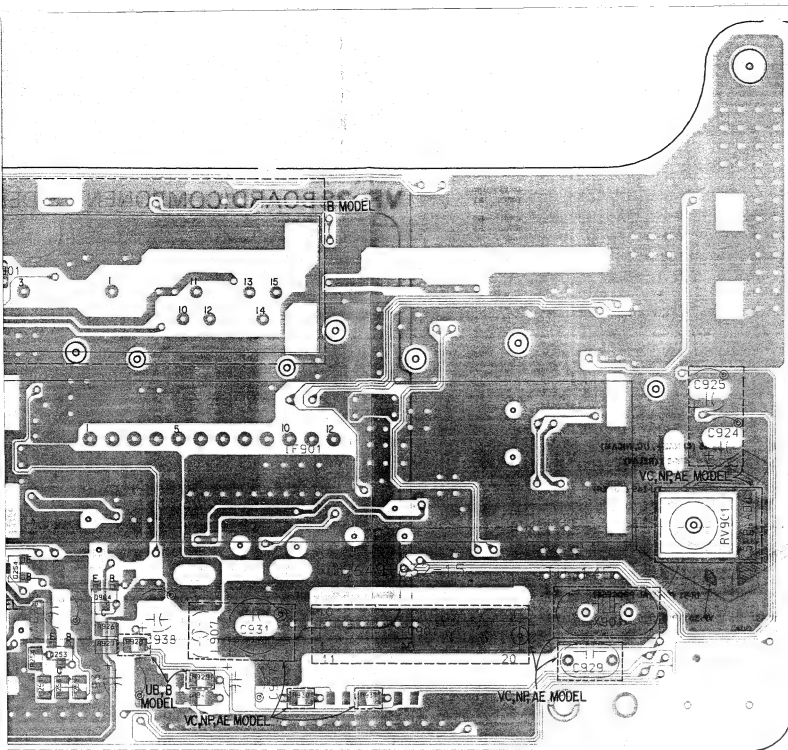
TU-145 BOARD	
CH901	D-1
D251	G-4
D901	H-2
D903	C-1
D904	C-2
IC901	E-6
IC902	D-2
IC903	E-2
Q251	G-4
Q253	E-4
Q254	D-4
Q901	H-2
Q902	I-5
Q903	E-3
Q904	D-4

TU-145 BOARD (COMPONENT SIDE)



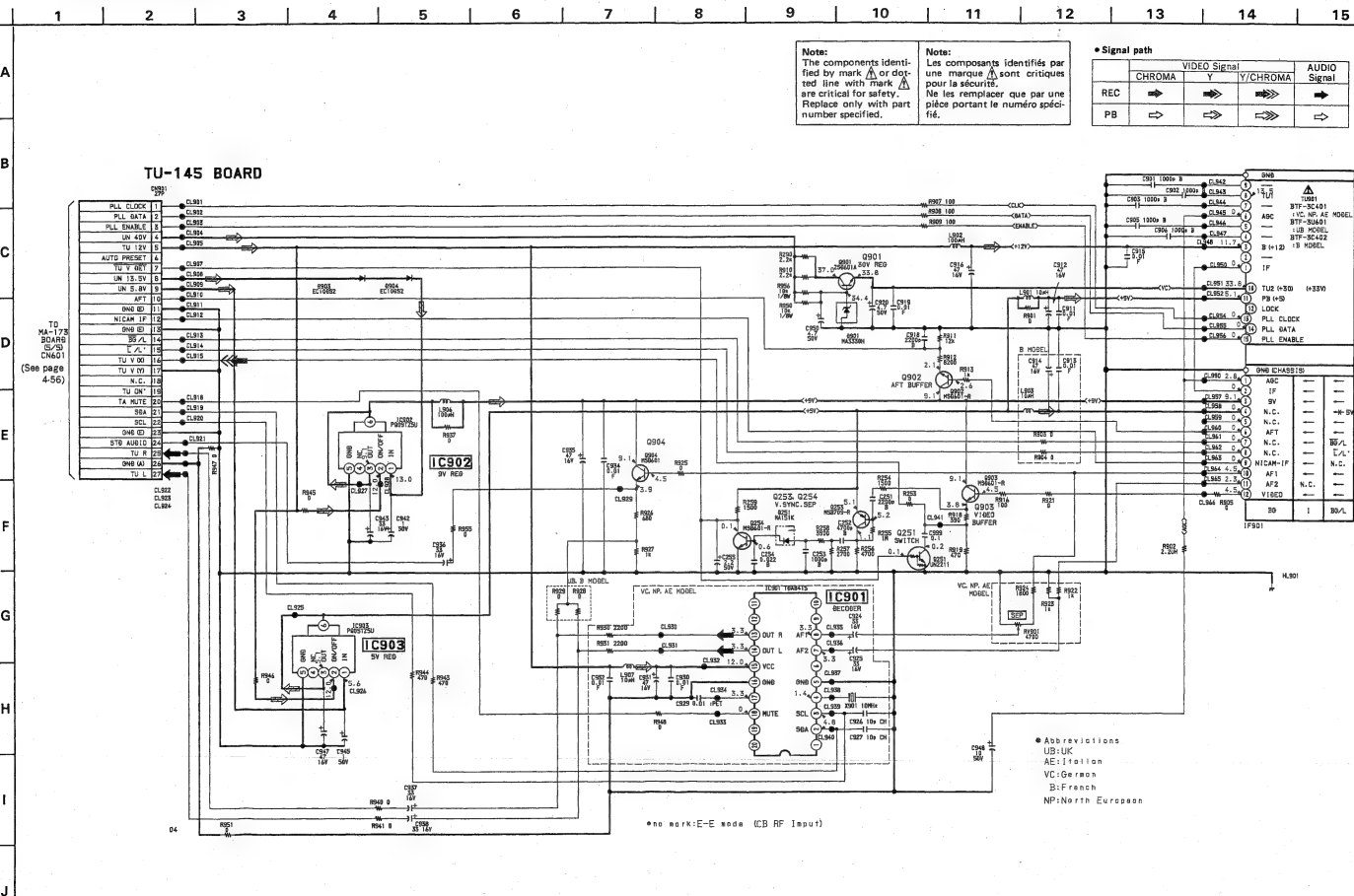
TU-145 BOARD (CONDUCTOR SIDE)





U-145 1-649-832

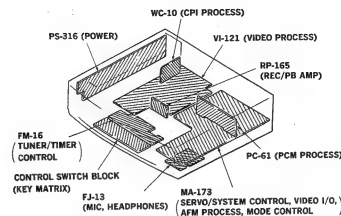
TU-145 (TUNER) SCHEMATIC DIAGRAM
—Ref. No. TU-145 BOARD: 5000 series—



EV-S9000E AE/B/NP/UB/VC

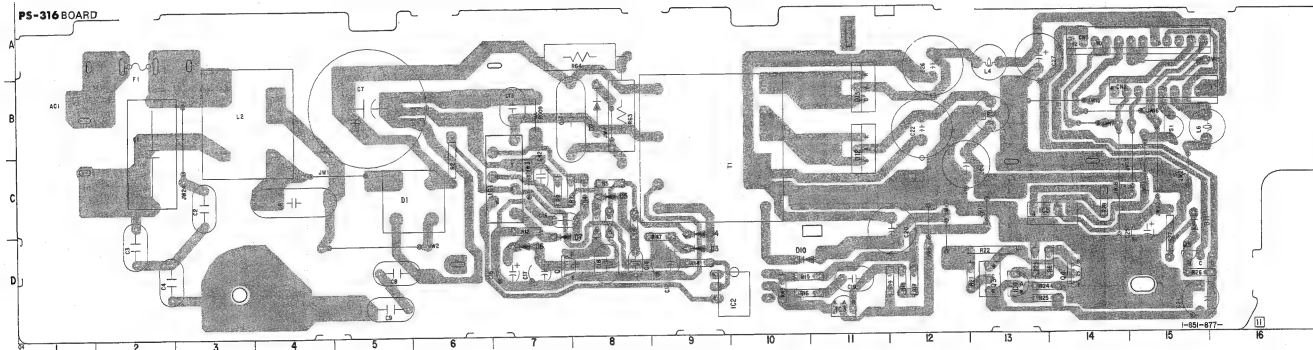
PS-316 (POWER) PRINTED WIRING BOARD

—Ref. No. PS-316 BOARD: 8000 series—



PS-316 BOARD

CN002	B-14
CN003	A-14
D001	C-5
D002	B-8
D003	D-9
D004	D-9
D005	C-8
D006	C-7
D007	D-7
D010	D-10
D011	C-15
D012	C-11
D013	B-11
IC001	C-6
IC002	D-10
IC003	D-11
IC004	D-13
IC005	C-13
Q001	D-7
Q003	D-13
Q004	D-14
Q005	D-15





4-3. SEMICONDUCTORS

DTA144EK
DTC114TK
DTC144EK
MSD601-RT1
UN211L
UN211I
UN211S
UN221I
UN221S
2SA1162-Y
2SA1226-E4
2SB1121-S
2SB1295-UL6
2SC1623-LSL6
2SC2223-F13
2SC2223-F14
2SC2712-YG
2SC3064-F
2SC3326M-A
2SD1328-RST
2SD601A-S

2SA1237F-6B



2SB733-34
2SD1387-3



2SD999-CLK



2SD1805FA-F



AK04V0



AU02A-V0
RD5.6ESB2
1SS119



DWA010



1. CATHODE
2. CATHODE
3. ANODE
4. ANODE

XN4213
XN4501



XN4312
XN4601

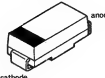


XN6501

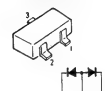


2SA1175-HFE
2SC2785-HFE

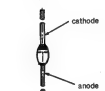
EC10DS2



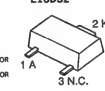
EC10Q5-04
1S2836



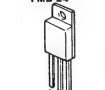
ES1F-M



E10DS2



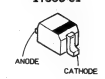
FMB-24



GL453S



MA110
1T33C-01



MA152WK
MA701A
1SS184



MA3130WA-TX
MA3330A-H-TX
MA721WA-TX
RD13M-B1
RD3.0M-B1
RD4.7M-B
RD6.2M-B2
RD6.8M-B1
RD9.1M-B1
RD9.1M-B2
SB05-05CP
1SS193



MA806B
MA8082-M



MSB709-RT1



RD7.5M-B2
1SS83



RD12M-B
SB10-05PCP



S2VB60



1SS226



1T32



PY5504S-1



SLP281C-50
TLR123
TLV123



SML1216W



1 ANODE RED
2 CATHODE
3 ANODE GREEN

SECTION 5

REPAIR PARTS LIST

5-1. EXPLODED VIEWS

NOTE:

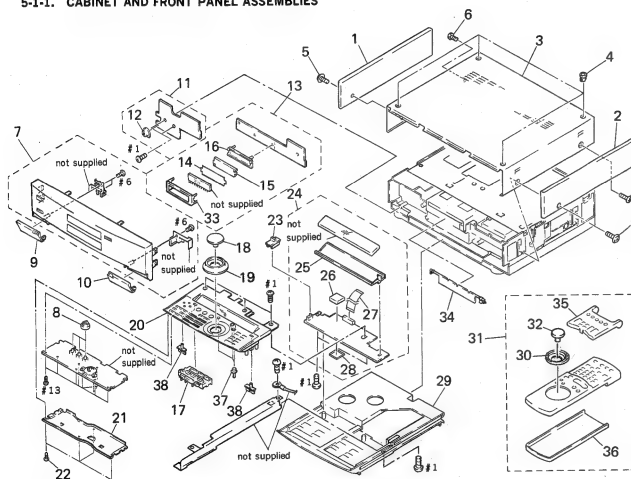
- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX and -X mean standardized parts, so they may have some difference from the original one.

- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.
- Abbreviations
UB : UK
AE : Italian
VC : German
NP : North European
B : French

The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

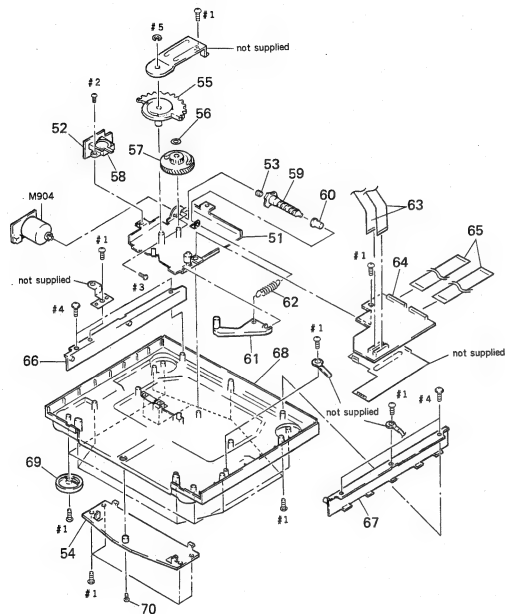
Les composants identifiés par une marque Δ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

5-1-1. CABINET AND FRONT PANEL ASSEMBLIES



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
1	3-955-954-01	PANEL (L), SIDE		18	3-955-947-01	RING, SHUTTLE	
2	3-955-953-01	PANEL (R), SIDE		20	X-3944-100-1	HOUSING ASSY (VC)	
* 3	3-955-956-01	CASE, UPPER		20	X-3943-014-1	HOUSING ASSY (NP, AE, UB, B)	
4	3-953-526-01	FASTENER, TOP ORNAMENTAL		* 21	3-956-197-01	BRACKET, SWITCH	
5	3-743-801-01	SCREW, SIDE WOOD		22	3-713-790-21	SCREW (M2X6), TAPPING, P3	
6	3-710-901-11	SCREW, TAPPING		23	3-955-901-01	KNOB, SLIDE	
7	X-3943-820-1	PANEL ASSY, FRONT (VC)		* 24	A-7063-938-A	FM-16 (G) BOARD, COMPLETE	
7	X-3944-031-1	PANEL ASSY, FRONT (NP)		* 25	3-955-955-01	HOLDER, INDICATION TUBE	
7	X-3944-032-1	PANEL ASSY, FRONT (B)		* 26	3-955-927-01	CASE (MAIN), SHIELD, DD	
7	X-3944-033-1	PANEL ASSY, FRONT (UB)		27	1-751-909-11	CABLE, FLAT (FMF-5) 25F	
7	X-3944-034-1	PANEL ASSY, FRONT (AE)		* 28	X-3943-435-1	LID ASSY, DD SHIELD CASE REAR	
8	3-957-696-01	KNOB B		* 29	X-3943-495-1	TRAY ASSY (NP, AE, UB, B)	
9	3-955-945-11	DOOR (LEFT)		* 29	X-3943-495-3	TRAY ASSY (VC)	
10	3-955-946-21	DOOR (RIGHT)		30	3-955-358-01	RING, SHUTTLE	
* 11	A-7063-933-A	FL-57 (G) BOARD, COMPLETE		31	1-467-238-31	REMOTE COMMANDER (RMT-V1388)	
* 12	3-947-530-01	HOLDER, TERMINAL, S		32	3-955-359-01	DIAL, JOG	
* 13	A-7063-934-A	FR-82 (G) BOARD, COMPLETE		* 33	X-3943-675-1	PLATE ASSY, GROUND, LCD	
14	3-955-837-01	ILLUMINATOR		34	3-955-929-01	DOOR, CASSETTE COMPARTMENT	
* 15	3-955-930-01	PLATE, LIGHT GUIDE, LCD		35	3-708-870-01	COVER V1388	
* 16	3-955-931-01	HOLDER, LCD		36	3-954-582-11	COVER, SLIDE	
17	3-959-138-01	KEY TOP SET		37	3-957-535-01	KEY TOP	
18	3-955-359-11	DIAL, JOG		38	3-957-534-01	KNOB A	

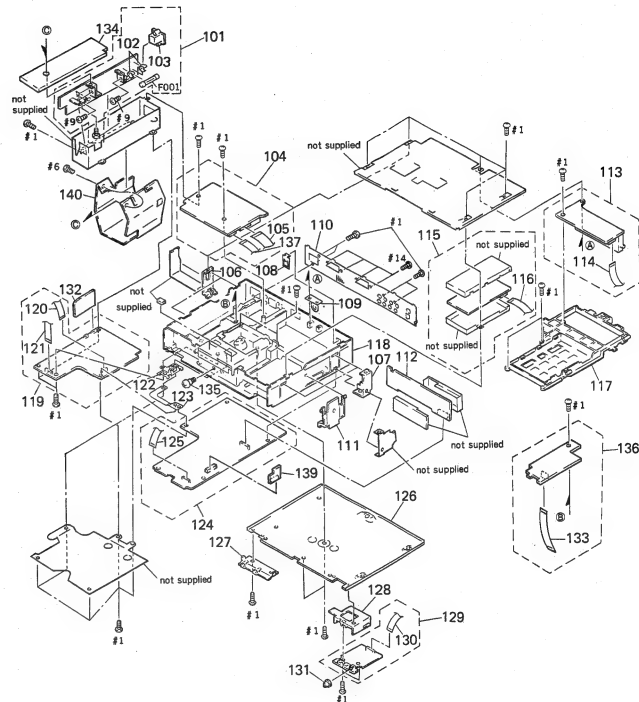
5-1-2. TRAY CHASSIS COMPLETE ASSEMBLY



Ref. No.	Part No.	Description	Remark
• 51	X-3943-958-01	CHASSIS ASSY, DRIVING	
• 52	1-950-413-11	SW-227 BOARD	
53	3-956-688-01	RUBBER JOINT	
54	X-3943-361-2	STAY ASSY	
55	3-955-940-01	GEAR, FLAT	
56	3-896-510-01	WASHER (3), STOPPER	
57	3-955-925-01	GEAR, HELICAL	
58	1-571-300-21	SWITCH, ROTARY	
59	3-736-100-01	GEAR (FL), WORM	
60	3-716-144-02	RETAINER, WORM	
61	3-955-924-01	ARM, LOCK	

5-3

5-1-3. MAIN BOARDS ASSEMBLY



Ref. No.	Part No.	Description	Remark
62	3-955-833-01	SPRING, TENSION (LOCK ARM)	
63	1-751-601-11	CABLE, FLAT (FWT-2) 27P	
• 64	A-7063-837-A	TK-26 (G) BOARD, COMPLETE	
65	1-765-141-11	CABLE, FLAT (FWT-7) 25P	
66	X-3943-359-1	PLATE ASSY (L), FULCRUM	
67	X-3943-360-1	PLATE ASSY (R), FULCRUM	
• 68	3-955-952-01	CHASSIS, TRAY	
69	2-951-093-11	INSULATOR	
70	3-713-790-21	SCREW (M2X3), TAPPING, P3	
M904	A-6759-573-A	MOTOR BLOCK ASSY, TRAY (including TM-119 BOARD)	

5-4

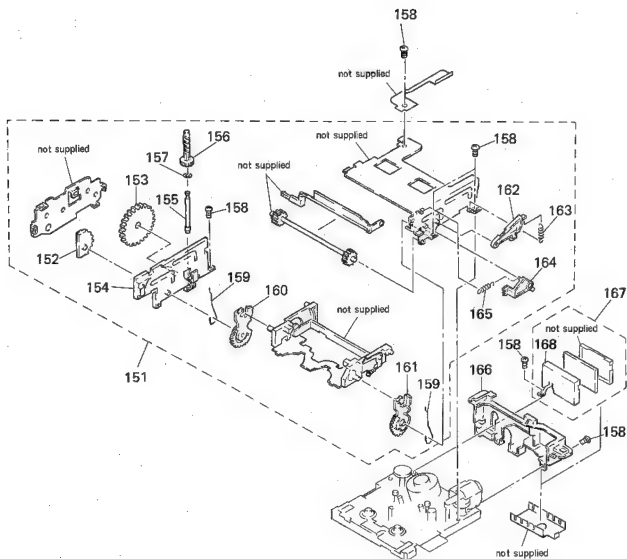
The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque Δ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark
* 101	A-7063-939-A	PS-316 (G) BOARD, COMPLETE	
102	1-533-183-11	HOLDER, FUSE	
Δ 103	1-251-134-11	INLET, AC (NONPOLAR)	
* 104	A-7063-931-A	CS-45 (G) BOARD, COMPLETE (VC, B)	
* 104	A-7063-987-A	CS-45 (K) BOARD, COMPLETE (UB)	
* 104	A-7066-003-A	CS-45 (N) BOARD, COMPLETE (NP)	
* 104	A-7066-016-A	CS-45 (I) BOARD, COMPLETE (AE)	
105	1-751-604-11	CABLE, FLAT (FMC-4) 2SP	
* 106	3-955-923-01	PLATE, FIXED (L), BOTTOM PLATE	
* 107	3-955-922-01	PLATE, FIXED (R), BOTTOM PLATE	
* 108	3-955-903-01	PLATE, GROUND, RFU	
* 109	3-955-904-01	PLATE, GROUND, TU	
* 110	3-955-835-11	PLATE, ORNAMENTAL, JACK (VC)	
* 110	3-955-835-31	PLATE, ORNAMENTAL, JACK (AE)	
* 110	3-955-835-41	PLATE, ORNAMENTAL, JACK (NP)	
* 110	3-955-835-51	PLATE, ORNAMENTAL, JACK (UB)	
* 110	3-955-835-61	PLATE, ORNAMENTAL, JACK (B)	
* 111	3-955-936-01	COVER, CARD	
* 112	A-7063-930-A	PC-61 (G) BOARD, COMPLETE	
* 113	A-7063-936-A	TU-145 (G) BOARD, COMPLETE (VC, NP, AE)	
* 113	A-7063-994-A	TU-145 (F) BOARD, COMPLETE (B)	
* 113	A-7063-998-A	TU-145 (K) BOARD, COMPLETE (UB)	
114	1-751-603-11	CABLE, FLAT (FMT-1) 2TP	
* 115	A-7063-932-A	DI-51 (G) BOARD, COMPLETE	
116	1-751-604-11	CABLE, FLAT (FMC-4) 2SP	
* 117	3-955-949-01	HOLDER, PC BOARD	
* 118	3-955-960-01	FRAME, MOLD	

Ref. No.	Part No.	Description	Remark
* 119	A-7063-923-A	VI-121 (G) BOARD, COMPLETE (VC, NP, B)	
* 119	A-7066-000-A	VI-121 (I) BOARD, COMPLETE (AE, UB)	
120	1-751-600-11	CABLE, FLAT (FVB-1) 21P	
121	1-751-606-11	CABLE, FLAT (FV-2) 15P	
* 122	3-955-911-01	PLATE, GROUND, MD	
* 123	3-955-897-01	PLATE, GROUND, MA	
* 124	A-7063-927-A	MA-173 (G) BOARD, COMPLETE (VC)	
* 124	A-7063-993-A	MA-173 (F) BOARD, COMPLETE (B)	
* 124	A-7063-996-A	MA-173 (K) BOARD, COMPLETE (UB)	
* 124	A-7066-002-A	MA-173 (N) BOARD, COMPLETE (NP)	
* 124	A-7066-015-A	MA-173 (I) BOARD, COMPLETE (AE)	
125	1-751-605-11	CABLE, FLAT (FMC-6) 21P	
* 126	3-955-951-01	PLATE, BOTTOM	
* 127	3-955-898-01	REINFORCEMENT (LEFT)	
* 128	X-3943-436-1	REINFORCEMENT (RIGHT) ASSY	
* 129	A-7063-935-A	FJ-13 (G) BOARD, COMPLETE	
130	1-751-602-11	CABLE, FLAT (FMC-9) 13P	
131	3-955-685-01	KNOB, VOLUME	
* 132	A-7063-929-A	WC-10 (G) BOARD, COMPLETE	
133	1-751-606-11	CABLE, FLAT (FMT-5)	
* 134	3-955-939-03	L10, POWER CASE, SHIELD	
135	3-741-948-01	SCREW (3), SPECIAL (+) TAPPING (VC)	
* 136	A-7063-940-A	TC-30 (G) BOARD, COMPLETE (VC, NP)	
* 136	A-7063-995-A	TC-30 (F) BOARD, COMPLETE (B)	
137	1-765-177-11	CABLE, FLEXIBLE FLAT (FMC-5) 13P	
* 139	A-7071-995-A	VP-38 (G) BOARD, COMPLETE (VC)	
140	3-959-319-01	POWER SHIELD SHEET	
Δ F001	1-576-228-11	FUSE, GLASS TUBE (250V/2A)	

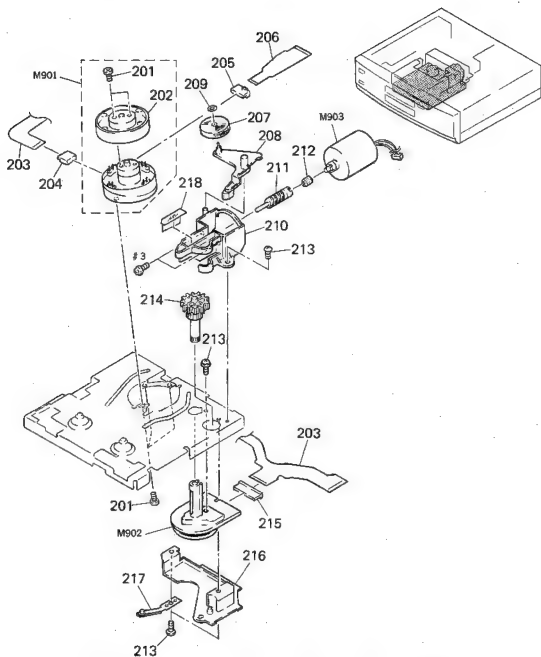
5-1-4. CASSETTE COMPARTMENT ASSEMBLY



Ref. No.	Part No.	Description	Remark
151	A-7091-941-A	FL BLOCK ASSY	
152	3-954-020-01	GEAR, DRIVING	
153	3-954-019-01	WHEEL, FL WORM	
• 154	3-954-032-01	PLATE (S), SIDE	
• 155	3-954-029-01	SHAFT, FL WORM GEAR	
156	3-954-028-01	GEAR, FL WORM	
157	3-738-212-11	RETAINER, THRUST, REEL TABLE	
158	3-732-817-01	SCREW (2X4.5), TAPPING	
159	3-954-042-01	SPRING, PRESS	

Ref. No.	Part No.	Description	Remark
160	3-954-034-01	ARM (S), DRIVING	
161	3-954-033-01	ARM (T), DRIVING	
• 162	3-954-040-01	ARM, CASSETTE IN SWITCH	
163	3-954-043-01	SPRING, TENSION	
• 164	3-954-041-01	ARM, DOOR SWITCHING	
165	3-954-044-01	SPRING, TENSION	
• 166	3-955-823-01	FRAME, RP	
• 167	A-7063-758-A	RP-165 BOARD, COMPLETE	
• 168	3-955-821-01	CASE (MAIN), SHIELD, RP	

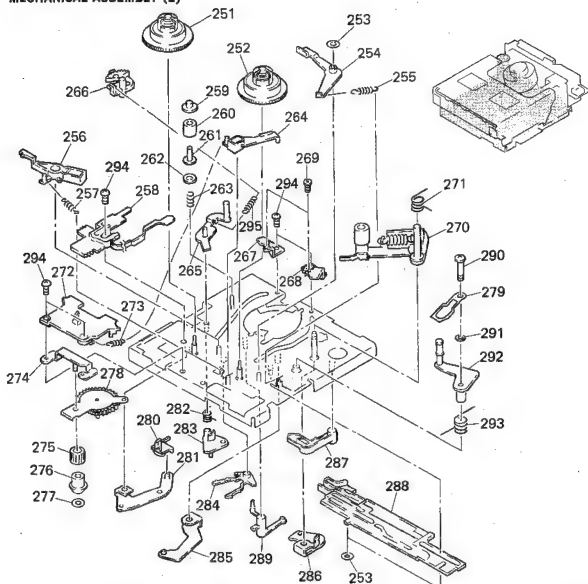
5-1-5. MECHANICAL ASSEMBLY (1)



Ref. No.	Part No.	Description	Remark
201	3-686-493-01	SCREW (M2X5), P1	
202	A-7049-628-A	UPPER DRUM ASSY (DGR-080-R)	
203	1-949-830-11	FP-695 FLEXIBLE BOARD	
204	1-891-254-13	CONNECTOR, TRANSLATION 10P	
205	1-891-471-11	CONNECTOR, TRANSLATION 11P	
206	1-649-565-11	FP-696 FLEXIBLE BOARD	
207	X-3943-192-1	ROLLER ASSY, HC	
208	X-3942-947-1	ARM ASSY, HC	
209	3-321-393-01	WASHER, STOPPER	
210	3-954-024-01	HOLDER, MOTOR	
211	3-733-395-01	GEAR (CAM), WORM	
212	3-696-288-01	RUBBER, JOINT	

Ref. No.	Part No.	Description	Remark
213	3-732-817-01	SCREW (2X4.5), TAPPING	
214	3-954-023-01	WHEEL, CAM WORM	
215	1-764-137-11	CONNECTOR, TRANSLATION 15P	
* 216	3-954-049-01	RETAINER, WORM WHEEL	
217	X-3942-960-1	GROUND ASSY, SHAFT	
* 218	3-958-047-01	COVER, MOTOR HOLDER	
M901	A-7048-696-A	DRUM ASSY (DGH-080A-R)	
M902	8-835-499-01	MOTOR, DC SCE-9501A	
M903	X-3942-946-1	MOTOR ASSY, CAM	

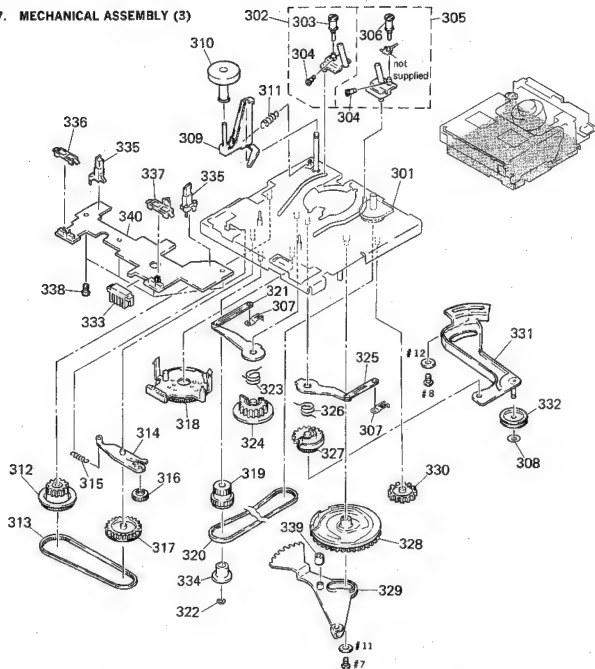
5-1-6. MECHANICAL ASSEMBLY (2)



Ref. No.	Part No.	Description	Remark
251	X-3942-954-1	TABLE (S) ASSY, REEL	
252	X-3942-953-1	TABLE (T) ASSY, REEL	
253	3-669-465-00	WASHER (1.5), STOPPER	
254	X-3943-161-1	BRAKE (T) ASSY	
255	3-853-976-01	SPRING, TENSION	
256	3-954-071-01	ARM, BRAKE (S)	
257	3-954-085-01	SPRING, TENSION	
258	X-3942-956-1	BAND ASSY, TENSION REGULATOR	
259	3-726-884-01	FLANGE, UPPER, TG2	
260	3-726-883-31	ROLLER, TG2	
261	3-726-885-01	SLEEVE, TG2	
262	3-726-882-02	FLANGE, LOWER, TG2	
263	3-954-001-01	SPRING, COMPRESSION	
264	X-3943-111-1	BRAKE (T) ASSY, SOFT	
265	X-3942-955-1	TENSION REGULATOR ASSY	
266	3-954-103-01	ARM, TENSION ADJUSTMENT	
267	3-954-090-01	CATCHER (S)	
268	3-954-091-01	CATCHER (T)	
269	3-954-285-01	SCREW (M1.6X.2)	
270	X-3942-945-1	ARM ASSY, PINCH	
271	3-954-105-01	SPRING (PINCH DRIVING)	
272	3-954-063-01	PLATE, RELEASE, REEL LOCK	
273	3-955-142-01	SPRING, TENSION	

Ref. No.	Part No.	Description	Remark
274	X-3943-182-1	BASE ASSY, PENDULUM	
275	3-954-059-01	GEAR, PENDULUM DRIVING	
276	3-954-321-01	BEARING, PENDULUM DRIVING	
277	3-726-823-01	WASHER, STOPPER	
278	X-3942-951-1	GEAR ASSY, PENDULUM	
279	3-954-093-01	SPACER, TG7	
280	3-953-975-01	CLAW, S TAKE-UP	
281	3-953-974-01	ARM, S TAKE-UP	
282	3-956-366-01	SPRING, TORSION	
283	3-954-100-01	ARM, TENSION REGULATOR SUB	
284	3-953-973-01	ARM, PENDULUM COMPUSSION	
285	3-954-007-01	LEVER, SLIDE PLATE DRIVING	
286	3-954-009-01	LEVER, PINCH DRIVING	
287	3-954-016-01	LEVER, TG7 DRIVING	
288	3-953-972-01	PLATE, SLIDE	
289	3-954-072-01	LEVER, BRAKE (S) DRIVING	
290	3-954-086-01	SCREW, TG7 HEIGHT ADJUSTMENT	
291	3-738-212-11	RETAINER, THRUST, REEL TABLE	
292	X-3942-958-1	ARM ASSY, TG7	
293	3-954-003-01	SPRING (TG7), TORSION	
294	3-732-817-01	SCREW (2X4.5), TAPPING	
295	3-954-074-01	SPRING, TENSION	

5-1-7. MECHANICAL ASSEMBLY (3)



Ref. No.	Part No.	Description
* 301	X-3942-952-1	CHASSIS ASSY, MECHANICAL
302	A-7040-338-A	COASTER (S) BLOCK ASSY
303	X-3941-755-1	ROLLER ASSY (2), TG3
304	3-947-504-01	SCREW (M1.2X2)
305	A-7040-339-A	COASTER (T) BLOCK ASSY
306	X-3941-756-1	ROLLER ASSY (2), TG6
307	3-953-648-01	SPRING, LEAF, COASTER
308	3-726-829-01	WASHER, STOPPER
309	X-3943-015-1	BASE ASSY, ROLLER
310	3-954-282-01	ROLLER (M)
311	3-954-284-01	SPRING, TENSION
312	3-953-983-01	GEAR, FL PULLEY
313	3-954-078-01	BELT (FL), TIMING
314	3-953-979-01	ARM, FL SELECTION
315	3-953-982-01	SPRING, TENSION
316	3-953-980-01	GEAR, FL SELECTION
317	3-953-981-01	GEAR (DRIVING), FL PULLEY
318	1-692-498-11	SWITCH, ROTARY
319	3-954-051-01	GEAR, REEL RELAY
320	3-953-986-01	BELT, TIMING

Remark

Ref. No.	Part No.	Description	Remark
321	X-3942-949-1	ARM (S) ASSY, LOADING	
322	3-726-829-01	WASHER, STOPPER	
323	3-953-990-01	SPRING (S), TORSION	
324	3-953-991-01	GEAR (S), LOADING	
325	X-3942-948-1	ARM (T) ASSY, LOADING	
326	3-954-000-01	SPRING (T), TORSION	
327	3-953-992-01	GEAR (T), LOADING	
328	3-954-050-01	CAM, MAIN	
* 329	3-954-014-01	LEVER, LOADING DRIVING	
330	3-954-015-01	GEAR, CAM RELAY	
331	X-3942-962-1	BASE ASSY, PULLEY	
332	X-3943-015-1	PULLEY ASSY, BELT	
333	1-750-820-11	CONNECTOR (M08 MD)	
334	3-954-102-02	FLANGE, REEL RELAY	
335	3-953-985-01	HOLDER, ST SENSOR	
336	3-954-638-01	HOLDER (S), PUSH SWITCH	
337	3-954-639-01	HOLDER (T), PUSH SWITCH	
338	3-732-817-01	SCREW (2X4.5), TAPPING	
339	3-954-323-01	ROLLER, LOADING	
* 340	1-948-300-11	MD-59 BOARD	

CONTROL SWITCH BLOCK

5-2. ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
All resistors are in ohms.
METAL: Metal-film resistor.
METAL OXIDE: Metal oxide-film resistor.
F: Nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. NP: North European
Some delay should be anticipated when ordering these items.

SEMICONDUCTORS

In each case, u: μ , for example:

uA...: μ AA. uPA...: μ PA.
uPB...: μ PB. uPC...: μ PC. uPD...: μ PD.

CAPACITORS

uF: μ F

COILS

uH: μ H

Abbreviations

UB: UK

AE: Italian

VC: German

B: French

NP: North European

When indicating parts by reference number, please include the board.

The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque Δ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark
*		CONTROL SWITCH BLOCK (Supplied with HOUSING ASSY) (Ref.No 7,000 series)	

< CONNECTOR >

CN401 1-568-867-11 FPC CONNECTOR 25P

< DIODE >

D420	8-719-037-97 LED	CL-190R-CD (TIME CORD WRITE)	
D421	8-719-037-97 LED	CL-190R-CD (AUDIO DUB)	
D423	8-719-037-97 LED	CL-190R-CD (HIFI)	
D424	8-719-047-66 LED	CL-190D-CD (TBC)	
D425	8-719-047-66 LED	CL-190D-CD (DNR)	
D426	8-719-037-96 LED	CL-190G-CD (PCM)	
D427	8-719-037-97 LED	CL-190R-CD (EDIT STBY)	
D428	8-719-037-96 LED	CL-190G-CD (LANG REMOTE)	
D429	8-719-037-96 LED	CL-190G-CD (PLAY)	
D430	8-719-037-96 LED	CL-190G-CD (PLAY)	
D431	8-719-037-96 LED	CL-190G-CD (STOP)	
D432	8-719-037-96 LED	CL-190G-CD (STOP)	

< JUMPER RESISTOR >

JR401	1-216-296-11 METAL CHIP	0	5%	1/8W	A
JR402	1-216-296-11 METAL CHIP	0	5%	1/8W	A
JR403	1-216-296-11 METAL CHIP	0	5%	1/8W	A
JR404	1-216-296-11 METAL CHIP	0	5%	1/8W	A
JR405	1-216-296-11 METAL CHIP	0	5%	1/8W	A
JR406	1-216-296-11 METAL CHIP	0	5%	1/8W	A
JR407	1-216-296-11 METAL CHIP	0	5%	1/8W	A
JR408	1-216-296-11 METAL CHIP	0	5%	1/8W	A
JR409	1-216-296-11 METAL CHIP	0	5%	1/8W	A
JR410	1-216-296-11 METAL CHIP	0	5%	1/8W	A
JR411	1-216-296-11 METAL CHIP	0	5%	1/8W	A
JR412	1-216-296-11 METAL CHIP	0	5%	1/8W	A
JR413	1-216-296-11 METAL CHIP	0	5%	1/8W	A
JR414	1-216-296-11 METAL CHIP	0	5%	1/8W	A
JR415	1-216-296-11 METAL CHIP	0	5%	1/8W	A

Ref. No.	Part No.	Description				Remark
JR416	1-216-296-11	METAL CHIP	0	5%	1/8W	A
JR417	1-216-296-11	METAL CHIP	0	5%	1/8W	A
JR418	1-216-296-11	METAL CHIP	0	5%	1/8W	A
JR419	1-216-296-11	METAL CHIP	0	5%	1/8W	A
JR420	1-216-296-11	METAL CHIP	0	5%	1/8W	A
JR421	1-216-296-11	METAL CHIP	0	5%	1/8W	A
JR422	1-216-296-11	METAL CHIP	0	5%	1/8W	A
JR423	1-216-296-11	METAL CHIP	0	5%	1/8W	A
JR424	1-216-296-11	METAL CHIP	0	5%	1/8W	A
JR425	1-216-296-11	METAL CHIP	0	5%	1/8W	A
JR426	1-216-296-11	METAL CHIP	0	5%	1/8W	A
JR427	1-216-296-11	METAL CHIP	0	5%	1/8W	A
JR428	1-216-296-11	METAL CHIP	0	5%	1/8W	A
JR429	1-216-296-11	METAL CHIP	0	5%	1/8W	A
JR430	1-216-296-11	METAL CHIP	0	5%	1/8W	A
JR431	1-216-296-11	METAL CHIP	0	5%	1/8W	A
JR432	1-216-296-11	METAL CHIP	0	5%	1/8W	A
JR433	1-216-296-11	METAL CHIP	0	5%	1/8W	A
JR434	1-216-296-11	METAL CHIP	0	5%	1/8W	A
JR435	1-216-296-11	METAL CHIP	0	5%	1/8W	A
JR436	1-216-296-11	METAL CHIP	0	5%	1/8W	A
JR437	1-216-296-11	METAL CHIP	0	5%	1/8W	A
JR438	1-216-296-11	METAL CHIP	0	5%	1/8W	A
JR439	1-216-296-11	METAL CHIP	0	5%	1/8W	A
JR440	1-216-296-11	METAL CHIP	0	5%	1/8W	A
JR441	1-216-296-11	METAL CHIP	0	5%	1/8W	A
JR442	1-216-296-11	METAL CHIP	0	5%	1/8W	A
JR443	1-216-296-11	METAL CHIP	0	5%	1/8W	A
JR444	1-216-296-11	METAL CHIP	0	5%	1/8W	A
JR445	1-216-296-11	METAL CHIP	0	5%	1/8W	A
JR446	1-216-296-11	METAL CHIP	0	5%	1/8W	A
JR447	1-216-296-11	METAL CHIP	0	5%	1/8W	A
JR448	1-216-296-11	METAL CHIP	0	5%	1/8W	A
JR449	1-216-296-11	METAL CHIP	0	5%	1/8W	A
JR450	1-216-296-11	METAL CHIP	0	5%	1/8W	A
JR451	1-216-296-11	METAL CHIP	0	5%	1/8W	A

CONTROL SWITCH BLOCK

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
JR452	1-216-286-11	METAL CHIP	0 5% 1/8W A	R427	1-216-095-11	METAL CHIP	82K 1/10W
JR453	1-216-286-11	METAL CHIP	0 5% 1/8W A	R428	1-216-048-11	METAL CHIP	1K 1/10W
JR454	1-216-286-11	METAL CHIP	0 5% 1/8W A	R429	1-216-033-11	METAL CHIP	220 1/10W
JR455	1-216-286-11	METAL CHIP	0 5% 1/8W A	R430	1-216-033-11	METAL CHIP	220 1/10W
JR456	1-216-286-11	METAL CHIP	0 5% 1/8W A	R431	1-216-033-11	METAL CHIP	220 1/10W
JR457	1-216-286-11	METAL CHIP	0 5% 1/8W A	R432	1-216-033-11	METAL CHIP	220 1/10W
JR458	1-216-286-11	METAL CHIP	0 5% 1/8W A	R433	1-216-037-11	METAL CHIP	330 1/10W
JR459	1-216-286-11	METAL CHIP	0 5% 1/8W A	R434	1-216-037-11	METAL CHIP	330 1/10W
JR460	1-216-286-11	METAL CHIP	0 5% 1/8W A	R435	1-216-037-11	METAL CHIP	330 1/10W
JR461	1-216-286-11	METAL CHIP	0 5% 1/8W A	R436	1-216-037-11	METAL CHIP	330 1/10W
JR462	1-216-286-11	METAL CHIP	0 5% 1/8W A	R437	1-216-041-11	METAL CHIP	470 1/10W
JR463	1-216-286-11	METAL CHIP	0 5% 1/8W A	R438	1-216-041-11	METAL CHIP	470 1/10W
< TRANSISTOR >				R439	1-216-190-11	METAL CHIP	470 1/8W
Q401	8-729-421-19	TRANSISTOR UN2213	A	R440	1-216-041-11	METAL CHIP	470 1/10W
Q402	8-729-421-19	TRANSISTOR UN2213	A	R441	1-216-095-11	METAL CHIP	82K 1/10W
Q403	8-729-421-19	TRANSISTOR UN2213	A	R442	1-216-075-00	METAL CHIP	12K 1/10W
Q404	8-729-421-19	TRANSISTOR UN2213	A	R442	1-216-077-11	METAL CHIP	15K 1/10W
Q405	8-729-421-19	TRANSISTOR UN2213	A	R443	1-216-048-11	METAL CHIP	910 1/10W
Q406	8-729-421-19	TRANSISTOR UN2213	A	R443	1-216-061-11	METAL CHIP	3.3K 1/10W
Q407	8-729-421-19	TRANSISTOR UN2213	A	R444	1-216-198-11	METAL CHIP	1K 1/8W
Q408	8-729-421-19	TRANSISTOR UN2213	A	R445	1-216-049-11	METAL CHIP	1K 1/10W
< RESISTOR >				R446	1-216-198-11	METAL CHIP	1K 1/8W
R401	1-216-182-11	METAL CHIP	220 1/8W	R447	1-216-049-11	METAL CHIP	1K 1/10W
R402	1-216-033-11	METAL CHIP	220 1/10W	R448	1-216-049-11	METAL CHIP	1K 1/10W
R403	1-216-033-11	METAL CHIP	220 1/10W	R449	1-216-182-11	METAL CHIP	220 1/8W
R404	1-216-037-11	METAL CHIP	330 1/10W	R450	1-216-057-11	METAL CHIP	2.2K 1/10W
R405	1-216-182-11	METAL CHIP	220 1/8W	R452	1-216-057-11	METAL CHIP	2.2K 1/10W
R406	1-216-033-11	METAL CHIP	220 1/10W	R453	1-216-031-11	METAL CHIP	180 1/10W
R407	1-216-033-11	METAL CHIP	220 1/10W	R454	1-216-031-11	METAL CHIP	180 1/10W
R408	1-216-041-11	METAL CHIP	470 1/10W	R455	1-216-031-11	METAL CHIP	180 1/10W
R409	1-216-186-11	METAL CHIP	330 1/8W	R457	1-216-031-11	METAL CHIP	180 1/10W
R410	1-216-037-11	METAL CHIP	330 1/10W	R458	1-216-031-11	METAL CHIP	180 1/10W
R411	1-216-037-11	METAL CHIP	330 1/10W	R459	1-216-031-11	METAL CHIP	180 1/10W
R412	1-216-190-11	METAL CHIP	470 1/8W	R460	1-216-031-11	METAL CHIP	180 1/10W
R413	1-216-041-00	METAL CHIP	470 1/10W	R461	1-216-031-11	METAL CHIP	180 1/10W
R414	1-216-190-11	METAL CHIP	470 1/8W	R465	1-216-286-11	METAL CHIP	0 1/8W
R415	1-216-049-11	METAL CHIP	1K 1/10W	R466	1-216-286-11	METAL CHIP	0 1/8W
R416	1-216-057-11	METAL CHIP	2.2K 1/10W	R467	1-216-286-11	METAL CHIP	0 1/8W
R417	1-216-049-11	METAL CHIP	1K 1/10W	R470	1-216-286-11	METAL CHIP	0 1/8W
R418	1-216-049-11	METAL CHIP	1K 1/10W	R471	1-216-031-11	METAL CHIP	180 1/10W
R421	1-216-206-11	METAL CHIP	2.2K 1/8W	R472	1-216-031-11	METAL CHIP	180 1/10W
R421	1-216-206-11	METAL CHIP	2.2K 1/8W	R473	1-216-031-11	METAL CHIP	180 1/10W
R422	1-216-206-11	METAL CHIP	2.2K 1/8W	R474	1-216-031-11	METAL CHIP	180 1/10W
R423	1-216-033-11	METAL CHIP	220 1/10W	< VARIABLE RESISTOR >			
R424	1-216-033-11	METAL CHIP	220 1/10W	RV401	1-223-521-11	RES, ADJ, CARBON 100K	(PCM/AFM/STD AUDIO LEVEL)
R425	1-216-033-11	METAL CHIP	220 1/10W	RV402	1-223-521-11	RES, ADJ, CARBON 100K	(PCM REC LEVEL)
R426	1-216-182-11	METAL CHIP	220 1/8W	RV403	1-223-521-11	RES, ADJ, CARBON 100K	(PCM REC BALANCE)

CONTROL SWITCH BLOCK CS-45

Ref. No.	Part No.	Description	Remark
< SWITCH >			
S401	1-692-925-11	SWITCH, TACTIL (LAWC REMOTE)	
S402	1-692-925-11	SWITCH, TACTIL (TIMER REC)	
S403	1-692-925-11	SWITCH, TACTIL (■ STOP)	
S404	1-692-925-11	SWITCH, TACTIL (PAUSE)	
S405	1-692-925-11	SWITCH, TACTIL (EDIT STOP)	
S406	1-692-925-11	SWITCH, TACTIL (QUICK TIMER)	
S407	1-692-925-11	SWITCH, TACTIL (● REC)	
S408	1-692-925-11	SWITCH, TACTIL (HI-SPEED REWIND)	
S409	1-692-925-11	SWITCH, TACTIL (SYNCHRO EDIT/START)	
S410	1-692-925-11	SWITCH, TACTIL (INPUT SELECT)	
S411	1-692-925-11	SWITCH, TACTIL (> PLAY)	
S412	1-692-925-11	SWITCH, TACTIL (TIMER CHECK)	
S413	1-692-925-11	SWITCH, TACTIL (ASSEMBLE)	
S415	1-692-925-11	SWITCH, TACTIL (PROGRAM -)	
S416	1-692-925-11	SWITCH, TACTIL (MARK)	
S417	1-692-926-11	SWITCH, SLIDE (PCM/MIX/STD)	
S418	1-692-925-11	SWITCH, TACTIL (PROGRAM +)	
S419	1-692-925-11	SWITCH, TACTIL (EDIT MONITOR)	
S423	1-692-925-11	SWITCH, TACTIL (BACK)	
S425	1-692-925-11	SWITCH, TACTIL (MENU)	
S426	1-692-925-11	SWITCH, TACTIL (EXECUTE)	
S428	1-692-925-11	SWITCH, TACTIL (COUNTER SELECT)	
S429	1-692-925-11	SWITCH, TACTIL (TV/VTR)	
S430	1-692-925-11	SWITCH, TACTIL (◀)	
S431	1-692-925-11	SWITCH, TACTIL (VPS) (VC)	
S432	1-692-925-11	SWITCH, TACTIL (FF ▶▶)	
S433	1-692-925-11	SWITCH, TACTIL (SP/LP)	
S434	1-692-925-11	SWITCH, TACTIL (▶)	
S435	1-692-925-11	SWITCH, TACTIL (EDIT)	
S436	1-692-925-11	SWITCH, TACTIL (REW ◀◀)	
S437	1-692-925-11	SWITCH, TACTIL (INDEX MARK)	
S438	1-692-925-11	SWITCH, TACTIL (▲)	
S439	1-692-925-11	SWITCH, TACTIL (DNR)	
S440	1-692-925-11	SWITCH, TACTIL (AUDIO DUB)	
S441	1-692-925-11	SWITCH, TACTIL (INDEX ERASE)	
S442	1-692-925-11	SWITCH, TACTIL (▼)	
S443	1-692-925-11	SWITCH, TACTIL (COUNTER RESET)	
S444	1-692-925-11	SWITCH, TACTIL (TIME CODE WRITE)	
S445	1-692-925-11	SWITCH, TACTIL (INDEX SEARCH ◀◀)	
S447	1-692-925-11	SWITCH, TACTIL (VISUAL SCAN)	
S449	1-692-925-11	SWITCH, TACTIL (INDEX SEARCH ▶▶)	
< SWITCH, JOG/SHUTTLE >			
S450	1-692-722-11	SWITCH, JOG/SHUTTLE (<REVERSE/FORWARD>)	

Ref. No.	Part No.	Description	Remark
*	A-7063-831-A	CS-45 (G) BOARD, COMPLETE (VC, B)	
*	A-7063-997-A	CS-45 (K) BOARD, COMPLETE (UB)	
*	A-7066-003-A	CS-45 (H) BOARD, COMPLETE (NP)	
*	A-7066-016-A	CS-45 (I) BOARD, COMPLETE (AE)	

(Ref. No. 5, 000 series)			
1-751-604-11 CABLE, FLAT (FMC-4)			
1-765-177-11 CABLE, FLEXIBLE FLAT (FMC-5)			
< CAPACITOR >			
C002	1-126-233-11	ELECT 22uF	20% 50V
C004	1-126-233-11	ELECT 22uF	20% 50V
C005	1-126-233-11	ELECT 22uF	20% 50V
C006	1-163-031-11	CERAMIC CHIP 0.01uF	50V
C007	1-163-031-11	CERAMIC CHIP 0.01uF	50V
C008	1-124-126-00	ELECT 47uF	20% 10V
C009	1-124-126-00	ELECT 47uF	20% 10V
C010	1-163-031-11	CERAMIC CHIP 0.01uF (VC, NP, B)	50V
C022	1-163-031-11	CERAMIC CHIP 0.01uF	50V
C023	1-124-288-00	ELECT 22uF	20% 10V
C024	1-124-288-00	ELECT 22uF	20% 10V
C025	1-163-031-11	CERAMIC CHIP 0.01uF	50V
C026	1-163-031-11	CERAMIC CHIP 0.01uF	50V
C027	1-124-126-00	ELECT 47uF	20% 10V
C028	1-124-126-00	ELECT 47uF	20% 10V
C037	1-126-233-11	ELECT 22uF (VC, NP, B)	20% 50V
C039	1-163-031-11	CERAMIC CHIP 0.01uF	50V
C040	1-124-443-00	ELECT 100uF	20% 10V
C041	1-163-133-00	CERAMIC CHIP 470PF (VC, NP, B)	5% 50V
C042	1-164-161-11	CERAMIC CHIP 0.0022uF	10% 100V
C043	1-163-133-00	CERAMIC CHIP 470PF (VC, NP, B)	5% 50V
C044	1-124-925-11	ELECT 2.2uF (VC, NP, B)	20% 100V
C053	1-163-235-11	CERAMIC CHIP 22PF	5% 50V
C054	1-163-235-11	CERAMIC CHIP 22PF	5% 50V
C055	1-163-031-11	CERAMIC CHIP 0.01uF	50V
C056	1-126-233-11	ELECT 22uF	20% 50V
C057	1-124-443-00	ELECT 100uF	20% 10V
C058	1-163-031-11	CERAMIC CHIP 0.01uF	50V
C059	1-163-031-11	CERAMIC CHIP 0.01uF	50V
C060	1-124-443-00	ELECT 100uF	20% 10V
C061	1-163-117-00	CERAMIC CHIP 100PF (VC, NP, B)	5% 50V
C062	1-163-117-00	CERAMIC CHIP 100PF (VC, NP, B)	5% 50V

Ref. No.	Part No.	Description	Remark
C063	1-163-117-00	CERAMIC CHIP (VC, NP, B)	100PF 5% 50V
C064	1-163-117-00	CERAMIC CHIP (VC, NP, B)	100PF 5% 50V
C065	1-163-117-00	CERAMIC CHIP (VC, NP, B)	100PF 5% 50V
C066	1-163-117-00	CERAMIC CHIP (VC, NP, B)	100PF 5% 50V
C067	1-163-117-00	CERAMIC CHIP (VC, NP, B)	100PF 5% 50V
C068	1-163-117-00	CERAMIC CHIP (VC, NP, B)	100PF 5% 50V
C069	1-163-125-00	CERAMIC CHIP (VC, NP, B)	220PF 5% 50V
C070	1-163-125-00	CERAMIC CHIP (VC, NP, B)	220PF 5% 50V
C071	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V
C072	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V
C073	1-163-125-00	CERAMIC CHIP (VC, NP, B)	220PF 5% 50V
C074	1-163-125-00	CERAMIC CHIP (VC, NP, B)	220PF 5% 50V
C075	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V
C076	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V
C077	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V
C078	1-163-117-00	CERAMIC CHIP	100PF 5% 50V
C079	1-163-117-00	CERAMIC CHIP	100PF 5% 50V
C080	1-163-117-00	CERAMIC CHIP	100PF 5% 50V
C081	1-163-117-00	CERAMIC CHIP	100PF 5% 50V
C082	1-163-117-00	CERAMIC CHIP	100PF 5% 50V
C083	1-163-117-00	CERAMIC CHIP	100PF 5% 50V
C084	1-163-117-00	CERAMIC CHIP (VC, NP, B)	100PF 5% 50V
C085	1-163-117-00	CERAMIC CHIP	100PF 5% 50V
C086	1-163-125-00	CERAMIC CHIP	220PF 5% 50V
C087	1-163-125-00	CERAMIC CHIP	220PF 5% 50V
C088	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V
C089	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V
C090	1-163-125-00	CERAMIC CHIP	220PF 5% 50V
C091	1-163-125-00	CERAMIC CHIP	220PF 5% 50V
C092	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V
C093	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V
C094	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V
C095	1-126-233-11	ELECT	22uF 20% 50V
C096	1-126-233-11	ELECT	22uF 20% 50V
C097	1-126-233-11	ELECT	22uF 20% 50V
C160	1-126-233-11	ELECT (VC, NP, B)	22uF 20% 50V
C161	1-163-102-00	CERAMIC CHIP (VC, NP, B)	24PF 5% 50V

Ref. No.	Part No.	Description	Remark
C162	1-163-031-11	CERAMIC CHIP (VC, NP, B)	0.01uF 50V
C201	1-163-117-00	CERAMIC CHIP	100PF 5% 50V
C202	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C203	1-124-126-00	ELECT	47uF 20% 10V
C204	1-163-117-00	CERAMIC CHIP	100PF 5% 50V
C205	1-124-126-00	ELECT	47uF 20% 10V
C206	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C211	1-124-126-00	ELECT	47uF 20% 10V
C212	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C213	1-163-031-11	CERAMIC CHIP (VC, NP, B)	0.01uF 50V
C214	1-163-117-00	CERAMIC CHIP (VC, NP, B)	100PF 5% 50V
C215	1-124-126-00	ELECT (VC, NP, B)	47uF 20% 10V
C216	1-163-117-00	CERAMIC CHIP (VC, NP, B)	100PF 5% 50V
C217	1-163-031-11	CERAMIC CHIP (VC, NP, B)	0.01uF 50V
C218	1-124-126-00	ELECT (VC, NP, B)	47uF 20% 10V
C227	1-163-117-00	CERAMIC CHIP	100PF 5% 50V
C228	1-124-126-00	ELECT	47uF 20% 10V
C229	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C230	1-163-117-00	CERAMIC CHIP	100PF 5% 50V
C232	1-124-126-00	ELECT	47uF 20% 10V
C233	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C237	1-124-126-00	ELECT	47uF 20% 10V
C239	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C240	1-163-117-00	CERAMIC CHIP	100PF 5% 50V
C241	1-163-117-00	CERAMIC CHIP	100PF 5% 50V
C244	1-126-233-11	ELECT	22uF 20% 50V
C245	1-126-233-11	ELECT	22uF 20% 50V
C246	1-126-233-11	ELECT (NP, UB)	22uF 20% 50V
C247	1-126-233-11	ELECT (NP, UB)	22uF 20% 50V
C248	1-163-031-11	CERAMIC CHIP (UB)	0.01uF 50V
C249	1-124-126-00	ELECT (NP, UB)	47uF 20% 10V
C249	1-163-031-11	CERAMIC CHIP (NP, UB)	0.01uF 50V
C250	1-163-031-11	CERAMIC CHIP (NP, UB)	0.01uF 50V
C251	1-124-477-11	ELECT (NP, UB)	47uF 20% 25V

Ref. No.	Part No.	Description	Remark
< CONNECTOR >			
CN001	1-691-084-21	HOUSING, CONNECTOR 25P	
* CN002	1-691-072-11	HOUSING, CONNECTOR 13P	
* CN003	1-564-001-11	PIN, CONNECTOR 2P (VC, NP, B)	
< JACK >			
CN3001	1-561-534-00	SOCKET, PIN 21P (EURO-AV (LINE 1))	
CN3002	1-561-534-00	SOCKET, PIN 21P (CAMEL *) (VC, NP, B)	
< DIODE >			
D001	8-719-801-78	DIODE 1SS184	
D002	8-719-200-27	DIODE E10DS2	
D009	8-719-421-59	DIODE MA3130WA-TX (VC, NP, B)	
D010	8-719-421-59	DIODE MA3130WA-TX (VC, NP, B)	
D011	8-719-421-59	DIODE MA3130WA-TX (VC, NP, B)	
D012	8-719-106-43	DIODE RDS, 1M-B1 (VC, NP, B)	
D013	8-719-157-23	DIODE RDS, 7M-B (VC, NP, B)	
D014	8-719-421-59	DIODE MA3130WA-TX (VC, NP, B)	
D015	8-719-421-59	DIODE MA3130WA-TX (VC, NP, B)	
D016	8-719-421-59	DIODE MA3130WA-TX (VC, NP, B)	
D017	8-719-421-59	DIODE MA3130WA-TX (VC, NP, B)	
D018	8-719-106-43	DIODE RDS, 1M-B1	
D019	8-719-421-59	DIODE MA3130WA-TX	
D020	8-719-421-59	DIODE MA3130WA-TX	
D021	8-719-421-59	DIODE MA3130WA-TX	
D022	8-719-106-43	DIODE RDS, 1M-B1 (VC, NP, B)	
D023	8-719-157-54	DIODE RD12M-B	
D024	8-719-421-59	DIODE MA3130WA-TX	
D025	8-719-421-59	DIODE MA3130WA-TX	
D026	8-719-421-59	DIODE MA3130WA-TX	
D027	8-719-421-59	DIODE MA3130WA-TX	
D028	8-719-106-43	DIODE RDS, 1M-B1	
< FERRITE BEAD >			
FB009	1-216-295-00	METAL CHIP 0 5K 1/10W	
FB010	1-216-295-00	METAL CHIP 0 5K 1/10W	
FB015	1-216-295-00	METAL CHIP 0 5K 1/10W	
FB017	1-216-295-00	METAL CHIP 0 5K 1/10W (VC, NP, B)	
FB018	1-216-295-00	METAL CHIP 0 5K 1/10W (VC, NP, B)	
FB019	1-216-295-00	METAL CHIP 0 5K 1/10W	
FB020	1-216-295-00	METAL CHIP 0 5K 1/10W (VC, NP, B)	
FB021	1-216-295-00	METAL CHIP 0 5K 1/10W	
FB022	1-216-295-00	METAL CHIP 0 5K 1/10W	
FB023	1-216-295-00	METAL CHIP 0 5K 1/10W	
FB024	1-414-235-11	INDUCTOR, FERRITE BEAD	
FB025	1-414-235-11	INDUCTOR, FERRITE BEAD	

Ref. No.	Part No.	Description	Remark
< IC >			
IC001	8-759-300-71	IC HD14053BFP	
IC002	8-759-097-80	IC HD49783FP (VC, NP, B)	
IC003	8-759-300-71	IC HD14053BFP	
IC004	8-759-262-03	IC MC145778F-T1	
IC005	8-759-257-87	IC MM1117XFE	
IC201	8-759-924-46	IC BA4560F	
IC202	8-759-300-71	IC HD14053BFP	
IC203	8-759-300-71	IC HD14053BFP (VC, NP, B)	
IC204	8-759-924-46	IC BA4560F (VC, NP, B)	
IC205	8-759-300-71	IC HD14053BFP (VC, NP, B)	
IC206	8-759-924-46	IC BA4560F	
IC207	8-759-924-46	IC BA4560F	
< JUMPER RESISTOR >			
JR001	1-216-296-00	METAL CHIP 0 5K 1/8W	
JR002	1-216-296-00	METAL CHIP 0 5K 1/8W	
JR003	1-216-296-00	METAL CHIP 0 5K 1/8W	
JR004	1-216-296-00	METAL CHIP 0 5K 1/8W	
JR005	1-216-296-00	METAL CHIP 0 5K 1/8W	
JR006	1-216-296-00	METAL CHIP 0 5K 1/8W	
JR007	1-216-296-00	METAL CHIP 0 5K 1/8W	
JR008	1-216-296-00	METAL CHIP 0 5K 1/8W	
JR009	1-216-296-00	METAL CHIP 0 5K 1/8W	
JR010	1-216-296-00	METAL CHIP 0 5K 1/8W	
JR011	1-216-296-00	METAL CHIP 0 5K 1/8W	
JR012	1-216-296-00	METAL CHIP 0 5K 1/8W	
JR013	1-216-296-00	METAL CHIP 0 5K 1/8W	
JR014	1-216-296-00	METAL CHIP 0 5K 1/10W	
JR015	1-216-296-00	METAL CHIP 0 5K 1/8W	
JR016	1-216-296-00	METAL CHIP 0 5K 1/10W	
JR019	1-216-296-00	METAL CHIP 0 5K 1/8W	
JR020	1-216-296-00	METAL CHIP 0 5K 1/8W	
JR022	1-216-296-00	METAL CHIP 0 5K 1/8W	
JR024	1-216-296-00	METAL CHIP 0 5K 1/8W	
JR025	1-216-296-00	METAL CHIP 0 5K 1/8W	
JR030	1-216-296-00	METAL CHIP 0 5K 1/8W	
JR031	1-216-296-00	METAL CHIP 0 5K 1/8W	
JR051	1-216-296-00	METAL CHIP 0 5K 1/8W	
JR052	1-216-295-00	METAL CHIP 0 5K 1/10W	
JR053	1-216-296-00	METAL CHIP 0 5K 1/8W	
JR054	1-216-296-00	METAL CHIP 0 5K 1/10W	
JR056	1-216-296-00	METAL CHIP 0 5K 1/8W	
JR057	1-216-296-00	METAL CHIP 0 5K 1/8W	
JR058	1-216-296-00	METAL CHIP 0 5K 1/8W	
JR074	1-216-296-00	METAL CHIP 0 5K 1/8W	
JR083	1-216-296-00	METAL CHIP 0 5K 1/8W	
JR108	1-216-296-00	METAL CHIP 0 5K 1/8W	

Ref. No.	Part No.	Description	Remark		
JR114	1-216-296-00	METAL CHIP	0	5%	1/8W
JR200	1-216-295-00	METAL CHIP	0	5%	1/10W
JR201	1-216-295-00	METAL CHIP	0	5%	1/10W
JR203	1-216-296-00	METAL CHIP	0	5%	1/8W
JR204	1-216-296-00	METAL CHIP	0	5%	1/8W
JR205	1-216-296-00	METAL CHIP	0	5%	1/8W
JR206	1-216-296-00	METAL CHIP	0	5%	1/8W
JR207	1-216-295-00	METAL CHIP	0	5%	1/10W
JR208	1-216-295-00	METAL CHIP	0	5%	1/10W
JR300	1-216-295-00	METAL CHIP	0	5%	1/10W
JR400	1-216-296-00	METAL CHIP	0	5%	1/8W
< COIL >					
L014	1-408-417-00	INDUCTOR 47uH			
L160	1-410-389-31	INDUCTOR CHIP 47uH (VC, NP, B)			
L201	1-408-417-00	INDUCTOR 47uH			
L206	1-408-417-00	INDUCTOR 47uH			
L207	1-408-417-00	INDUCTOR 47uH (NP, UB)			
L208	1-408-417-00	INDUCTOR 47uH (NP, UB)			
< DECODER BLOCK >					
NCM201	1-466-902-11	DECODER BLOCK (NCA-395A) (UB)			
NCM201	1-466-903-11	DECODER BLOCK (NCA-389A) (NP)			
< TRANSISTOR >					
Q001	8-729-010-25	TRANSISTOR MSD601-RT1 (VC, NP, B)			
Q002	8-729-010-25	TRANSISTOR MSD601-RT1			
Q004	8-729-010-25	TRANSISTOR MSD601-RT1			
Q005	8-729-010-25	TRANSISTOR MSD601-RT1			
Q006	8-729-421-19	TRANSISTOR UN213 (VC, NP, B)			
Q011	8-729-010-25	TRANSISTOR MSD601-RT1			
Q012	8-729-010-05	TRANSISTOR MSB709-RT1			
Q013	8-729-010-25	TRANSISTOR MSD601-RT1			
Q014	8-729-010-25	TRANSISTOR MSD601-RT1			
Q016	8-729-010-25	TRANSISTOR MSD601-RT1			
Q021	8-729-010-25	TRANSISTOR MSD601-RT1			
Q022	8-729-010-25	TRANSISTOR MSD601-RT1 (VC, NP, B)			
Q023	8-729-010-05	TRANSISTOR MSB709-RT1 (VC, NP, B)			
Q024	8-729-010-25	TRANSISTOR MSD601-RT1 (VC, NP, B)			
Q025	8-729-010-25	TRANSISTOR MSD601-RT1 (VC, NP, B)			
Q026	8-729-424-28	TRANSISTOR UN216 (VC, NP, B)			
Q036	8-729-421-19	TRANSISTOR UN213			
Q037	8-729-424-08	TRANSISTOR UN211			
Q160	8-729-010-05	TRANSISTOR MSB709-RT1 (VC, NP, B)			
Q161	8-729-010-25	TRANSISTOR MSD601-RT1			
Q162	8-729-010-25	TRANSISTOR MSD601-RT1			
Q163	8-729-010-25	TRANSISTOR MSD601-RT1 (VC, NP, B)			

Ref. No.	Part No.	Description	Remark		
< RESISTOR >					
R001	1-216-065-00	METAL CHIP (VC, NP, B)	4.7K	5%	1/10W
R002	1-216-081-00	METAL CHIP (VC, NP, B)	22K	5%	1/10W
R003	1-216-295-00	METAL CHIP (VC, NP, B)	0	5%	1/10W
R004	1-216-065-00	METAL CHIP (VC, NP, B)	4.7K	5%	1/10W
R005	1-216-059-91	METAL GLAZE	47K	5%	1/10W
R007	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R008	1-216-065-00	METAL CHIP (VC, NP, B)	4.7K	5%	1/10W
R010	1-216-295-00	METAL CHIP (VC, NP, B)	0	5%	1/10W
R011	1-216-065-00	METAL CHIP (VC, NP, B)	4.7K	5%	1/10W
R012	1-216-081-00	METAL CHIP	22K	5%	1/10W
R014	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R015	1-216-081-00	METAL CHIP	22K	5%	1/10W
R017	1-216-073-00	METAL CHIP	10K	5%	1/10W
R021	1-216-295-00	METAL CHIP (VC, NP, B)	0	5%	1/10W
R022	1-216-295-00	METAL CHIP (VC, NP, B)	0	5%	1/10W
R024	1-216-295-00	METAL CHIP (VC, NP, B)	0	5%	1/10W
R027	1-216-295-00	METAL CHIP (VC, NP, B)	0	5%	1/10W
R029	1-216-295-00	METAL CHIP (AE, UB)	0	5%	1/10W
R035	1-216-295-00	METAL CHIP (VC, NP, B)	0	5%	1/10W
R036	1-216-295-00	METAL CHIP	0	5%	1/10W
R037	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R038	1-216-081-00	METAL CHIP	22K	5%	1/10W
R039	1-216-295-00	METAL CHIP	0	5%	1/10W
R040	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R041	1-216-081-00	METAL CHIP	22K	5%	1/10W
R042	1-216-065-00	METAL CHIP (VC, NP, B)	4.7K	5%	1/10W
R043	1-216-081-00	METAL CHIP (VC, NP, B)	22K	5%	1/10W
R045	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R046	1-216-081-00	METAL CHIP	22K	5%	1/10W
R048	1-216-081-00	METAL CHIP	22K	5%	1/10W
R051	1-216-055-00	METAL CHIP	4.7K	5%	1/10W
R052	1-216-081-00	METAL CHIP	22K	5%	1/10W
R057	1-216-089-91	METAL GLAZE (VC, NP, B)	47K	5%	1/10W
R058	1-216-569-11	METAL CHIP	39K	0.5%	1/10W
R063	1-216-295-00	METAL CHIP (AE, UB)	0	5%	1/10W

Ref. No.	Part No.	Description	Remark		
R064	1-216-295-00	METAL CHIP (AE, UB)	0	5%	1/10W
R066	1-216-081-00	METAL CHIP (VC, NP, B)	22K	5%	1/10W
R067	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R068	1-216-081-00	METAL CHIP (VC, NP, B)	22K	5%	1/10W
R069	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R070	1-216-295-00	METAL CHIP	0	5%	1/10W
R071	1-216-011-00	METAL CHIP (VC, NP, B)	27	5%	1/10W
R072	1-216-041-00	METAL CHIP (VC, NP, B)	470	5%	1/10W
R073	1-216-025-00	METAL CHIP (VC, NP, B)	100	5%	1/10W
R074	1-216-025-00	METAL CHIP (VC, NP, B)	100	5%	1/10W
R075	1-216-053-00	METAL CHIP (VC, NP, B)	1.5K	5%	1/10W
R076	1-216-121-00	METAL CHIP (VC, NP, B)	1K	5%	1/10W
R077	1-216-101-00	METAL CHIP (VC, NP, B)	150K	5%	1/10W
R078	1-216-109-00	METAL CHIP (VC, NP, B)	330K	5%	1/10W
R079	1-216-065-00	METAL CHIP (VC, NP, B)	4.7K	5%	1/10W
R080	1-216-105-00	METAL CHIP (VC, NP, B)	220K	5%	1/10W
R081	1-216-069-00	METAL CHIP (VC, NP, B)	6.8K	5%	1/10W
R082	1-216-295-00	METAL CHIP	0	5%	1/10W
R085	1-216-295-00	METAL CHIP (AE, UB)	0	5%	1/10W
R086	1-216-295-00	METAL CHIP (AE, UB)	0	5%	1/10W
R082	1-216-025-00	METAL CHIP	100	5%	1/10W
R094	1-216-011-00	METAL CHIP	27	5%	1/10W
R095	1-216-011-00	METAL CHIP	27	5%	1/10W
R096	1-216-043-00	METAL CHIP	590	5%	1/10W
R097	1-216-043-00	METAL CHIP	590	5%	1/10W
R098	1-216-043-00	METAL CHIP	590	5%	1/10W
R099	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R100	1-216-043-00	METAL CHIP	590	5%	1/10W
R101	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R102	1-216-295-00	METAL CHIP	0	5%	1/10W
R103	1-216-295-00	METAL CHIP	0	5%	1/10W
R104	1-216-025-00	METAL CHIP (VC, NP, B)	100	5%	1/10W
R105	1-216-022-00	METAL CHIP (VC, NP, B)	75	5%	1/10W

Ref. No.	Part No.	Description	Remark		
P106	1-216-017-00	METAL CHIP (VC, NP, B)	47	5%	1/10W
R107	1-216-025-00	METAL CHIP (VC, NP, B)	100	5%	1/10W
R108	1-216-295-00	METAL CHIP (VC, NP, B)	0	5%	1/10W
R109	1-216-069-00	METAL CHIP (VC, NP, B)	6.8K	5%	1/10W
R110	1-216-057-00	METAL CHIP (VC, NP, B)	2.2K	5%	1/10W
R111	1-216-041-00	METAL CHIP (VC, NP, B)	470	5%	1/10W
R112	1-216-057-00	METAL CHIP (VC, NP, B)	2.2K	5%	1/10W
R113	1-216-041-00	METAL CHIP (VC, NP, B)	470	5%	1/10W
R115	1-216-295-00	METAL CHIP (VC, NP, B)	0	5%	1/10W
R116	1-216-022-00	METAL CHIP	75	5%	1/10W
R117	1-216-025-00	METAL CHIP	100	5%	1/10W
R118	1-216-017-00	METAL CHIP	47	5%	1/10W
R119	1-216-017-00	METAL CHIP	47	5%	1/10W
R120	1-216-295-00	METAL CHIP (VC, NP, B)	0	5%	1/10W
R121	1-216-041-00	METAL CHIP	470	5%	1/10W
R122	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R123	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R124	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R125	1-216-041-00	METAL CHIP	470	5%	1/10W
R126	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R127	1-216-041-00	METAL CHIP	470	5%	1/10W
R128	1-216-057-00	METAL CHIP (VC, NP, B)	2.2K	5%	1/10W
R129	1-216-041-00	METAL CHIP (VC, NP, B)	470	5%	1/10W
R130	1-216-057-00	METAL CHIP (VC, NP, B)	2.2K	5%	1/10W
R131	1-216-041-00	METAL CHIP (VC, NP, B)	470	5%	1/10W
R132	1-216-022-00	METAL CHIP (VC, NP, B)	75	5%	1/10W
R135	1-216-033-00	METAL CHIP (VC, NP, B)	220	5%	1/10W
R136	1-216-033-00	METAL CHIP (VC, NP, B)	220	5%	1/10W
R137	1-216-033-00	METAL CHIP	220	5%	1/10W
R138	1-216-033-00	METAL CHIP	220	5%	1/10W
R139	1-216-065-00	METAL CHIP (VC, NP, B)	4.7K	5%	1/10W
R141	1-216-049-00	METAL CHIP	1K	5%	1/10W
R142	1-216-041-00	METAL CHIP	470	5%	1/10W
R143	1-216-295-00	METAL CHIP	0	5%	1/10W

Ref. No.	Part No.	Description	Remark		
R144	1-216-295-00	METAL CHIP (AE, UB)	0	5%	1/10W
R151	1-216-049-00	METAL CHIP (VC, NP, B)	1K	5%	1/10W
R152	1-216-049-00	METAL CHIP (VC, NP, B)	1K	5%	1/10W
R153	1-216-049-00	METAL CHIP (VC, NP, B)	1K	5%	1/10W
R154	1-216-295-00	METAL CHIP (VC, NP, B)	0	5%	1/10W
R155	1-216-295-00	METAL CHIP (VC, NP, B)	0	5%	1/10W
R157	1-216-295-00	METAL CHIP (VC, NP, B)	0	5%	1/10W
R158	1-216-295-00	METAL CHIP (VC, NP, B)	0	5%	1/10W
R161	1-216-081-00	METAL CHIP (VC, NP, B)	22K	5%	1/10W
R162	1-216-065-00	METAL CHIP (VC, NP, B)	4.7K	5%	1/10W
R163	1-216-065-00	METAL CHIP (VC, NP, B)	4.7K	5%	1/10W
R164	1-216-059-00	METAL CHIP (VC, NP, B)	2.7K	5%	1/10W
R165	1-216-067-00	METAL CHIP (VC, NP, B)	5.6K	5%	1/10W
R166	1-216-295-00	METAL CHIP (VC, NP, B)	0	5%	1/10W
R167	1-216-065-00	METAL CHIP (VC, NP, B)	4.7K	5%	1/10W
R168	1-216-055-00	METAL CHIP (VC, NP, B)	1.8K	5%	1/10W
R169	1-216-295-00	METAL CHIP (VC, NP, B)	0	5%	1/10W
R203	1-216-073-00	METAL CHIP (VC, NP, B)	10K	5%	1/10W
R205	1-216-073-00	METAL CHIP (VC, NP, B)	10K	5%	1/10W
R206	1-216-073-00	METAL CHIP (VC, NP, B)	10K	5%	1/10W
R208	1-216-073-00	METAL CHIP (VC, NP, B)	10K	5%	1/10W
R209	1-216-073-00	METAL CHIP (VC, NP, B)	10K	5%	1/10W
R210	1-216-689-11	METAL CHIP (VC, NP, B)	39K	0.5%	1/10W
R211	1-216-073-00	METAL CHIP (VC, NP, B)	10K	5%	1/10W
R212	1-216-073-00	METAL CHIP (VC, NP, B)	10K	5%	1/10W
R213	1-216-689-11	METAL CHIP (VC, NP, B)	39K	0.5%	1/10W
R214	1-216-073-00	METAL CHIP (VC, NP, B)	10K	5%	1/10W
R217	1-216-295-00	METAL CHIP (VC, NP, B)	0	5%	1/10W
R218	1-216-295-00	METAL CHIP (VC, NP, B)	0	5%	1/10W
R219	1-216-295-00	METAL CHIP (VC, NP, B)	0	5%	1/10W
R220	1-216-295-00	METAL CHIP (VC, NP, B)	0	5%	1/10W
R221	1-216-295-00	METAL CHIP (VC, NP, B)	0	5%	1/10W
R222	1-216-295-00	METAL CHIP (VC, NP, B)	0	5%	1/10W

Ref. No.	Part No.	Description	Remark		
R223	1-216-089-91	METAL GLAZE (VC, NP, B)	47K	5%	1/10W
R224	1-216-089-91	METAL GLAZE (VC, NP, B)	47K	5%	1/10W
R225	1-216-089-91	METAL GLAZE (VC, NP, B)	47K	5%	1/10W
R226	1-216-089-91	METAL GLAZE (VC, NP, B)	47K	5%	1/10W
R227	1-216-041-00	METAL CHIP (VC, NP, B)	470	5%	1/10W
R228	1-216-041-00	METAL CHIP (VC, NP, B)	470	5%	1/10W
R229	1-216-073-00	METAL CHIP (VC, NP, B)	10K	5%	1/10W
R230	1-216-688-11	METAL CHIP (VC, NP, B)	39K	0.5%	1/10W
R231	1-216-073-00	METAL CHIP (VC, NP, B)	10K	5%	1/10W
R232	1-216-073-00	METAL CHIP (VC, NP, B)	10K	5%	1/10W
R233	1-216-688-11	METAL CHIP (VC, NP, B)	39K	0.5%	1/10W
R234	1-216-073-00	METAL CHIP (VC, NP, B)	10K	5%	1/10W
R235	1-216-295-00	METAL CHIP (VC, NP, B)	0	5%	1/10W
R236	1-216-295-00	METAL CHIP (VC, NP, B)	0	5%	1/10W
R237	1-216-081-00	METAL CHIP (VC, NP, B)	22K	5%	1/10W
R238	1-216-085-00	METAL CHIP (VC, NP, B)	33K	5%	1/10W
R239	1-216-073-00	METAL CHIP (VC, NP, B)	10K	5%	1/10W
R240	1-216-081-00	METAL CHIP (VC, NP, B)	22K	5%	1/10W
R241	1-216-085-00	METAL CHIP (VC, NP, B)	33K	5%	1/10W
R242	1-216-073-00	METAL CHIP (VC, NP, B)	10K	5%	1/10W
R243	1-216-071-00	METAL CHIP (VC, NP, B)	8.2K	5%	1/10W
R244	1-216-071-00	METAL CHIP (VC, NP, B)	8.2K	5%	1/10W
R246	1-216-295-00	METAL CHIP (VC, NP, B)	0	5%	1/10W
R247	1-216-295-00	METAL CHIP (VC, NP, B)	0	5%	1/10W
R251	1-216-295-00	METAL CHIP (VC, NP, B)	0	5%	1/10W
R253	1-216-295-00	METAL CHIP (VC, NP, B)	0	5%	1/10W
R254	1-216-295-00	METAL CHIP (VC, NP, B)	0	5%	1/10W

* A-7083-932-A DI-51 (G) BOARD, COMPLETE					

(Ref. No 1,000 series)					
1-751-904-11 CABLE, FLAT (FMD-4)					
< CAPACITOR >					
C108	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C109	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C114	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C115	1-126-208-11	ELECT CHIP	100uF	20%	6.3V
C116	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C117	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C118	1-126-208-11	ELECT CHIP	100uF	20%	6.3V
C120	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C121	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C122	1-126-208-11	ELECT CHIP	100uF	20%	6.3V
C150	1-124-778-00	ELECT CHIP	10uF	20%	15V

Ref. No.	Part No.	Description	Remark		
C152	1-126-205-11	ELECT CHIP	47uF	20%	6.3V
C153	1-124-778-00	ELECT CHIP	22uF	20%	6.3V
C155	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C156	1-163-129-00	CERAMIC CHIP	330PF	5%	50V
C157	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C158	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C159	1-126-205-11	ELECT CHIP	47uF	20%	6.3V
C200	1-124-778-00	ELECT CHIP	22uF	20%	6.3V
C201	1-163-101-00	CERAMIC CHIP	22PF	5%	50V
C202	1-163-101-00	CERAMIC CHIP	22PF	5%	50V
C204	1-124-778-00	ELECT CHIP	22uF	20%	6.3V
C205	1-126-205-11	ELECT CHIP	47uF	20%	6.3V
C206	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C207	1-126-193-11	ELECT	1uF	20%	50V
C208	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C209	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C210	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C213	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C214	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C215	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C216	1-124-778-00	ELECT CHIP	22uF	20%	6.3V
C218	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C219	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C250	1-163-101-00	CERAMIC CHIP	22PF	5%	50V
C251	1-163-101-00	CERAMIC CHIP	22PF	5%	50V
C252	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C253	1-126-205-11	ELECT CHIP	47uF	20%	6.3V
C254	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C255	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C256	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C257	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C258	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C259	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C262	1-124-778-00	ELECT CHIP	22uF	20%	6.3V
C263	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C265	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C266	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C300	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C301	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C302	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C303	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C304	1-126-205-11	ELECT CHIP	47uF	20%	6.3V
C305	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C306	1-126-193-11	ELECT	1uF	20%	50V
C307	1-124-499-11	ELECT, NONPOLAR	1uF	20%	50V
C308	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C309	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C311	1-124-499-11	ELECT, NONPOLAR	1uF	20%	50V
C312	1-163-038-00	CERAMIC CHIP	0.1uF		25V

Ref. No.	Part No.	Description	Remark		
C315	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C316	1-163-105-00	CERAMIC CHIP	33PF	5%	50V
C317	1-163-105-00	CERAMIC CHIP	33PF	5%	50V
C318	1-163-113-00	CERAMIC CHIP	68PF	5%	50V
C319	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C322	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C400	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C401	1-126-205-11	ELECT CHIP	47uF	20%	6.3V
C402	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C403	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C404	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C450	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C451	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C452	1-124-778-00	ELECT CHIP	22uF	20%	6.3V
C453	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C500	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C501	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C502	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C503	1-126-205-11	ELECT CHIP	47uF	20%	6.3V
C504	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C505	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C507	1-163-239-11	CERAMIC CHIP	33PF	5%	50V
C508	1-163-222-11	CERAMIC CHIP	5PF		0.25PF 50V
C570	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C600	1-163-098-00	CERAMIC CHIP	16PF	5%	50V
C601	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C602	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C603	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C604	1-124-778-00	ELECT CHIP	22uF	20%	6.3V
C605	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C607	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C608	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C609	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C610	1-163-087-00	CERAMIC CHIP	4PF		50V
C611	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C700	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C701	1-124-779-00	ELECT CHIP	10uF	20%	16V
C702	1-163-110-00	CERAMIC CHIP	51PF	5%	50V
C703	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C704	1-163-103-00	CERAMIC CHIP	27PF	5%	50V
C705	1-126-205-11	ELECT CHIP	47uF	20%	6.3V
C706	1-163-113-00	CERAMIC CHIP	68PF	5%	50V
C708	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C709	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C710	1-124-778-00	ELECT CHIP	22uF	20%	6.3V
C711	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C712	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C715	1-163-107-00	CERAMIC CHIP	39PF	5%	50V
C716	1-163-107-00	CERAMIC CHIP	39PF	5%	50V

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
C750	1-163-038-00	CERAMIC CHIP	0.1uF	25V		< DIODE >	
C751	1-163-031-11	CERAMIC CHIP	0.01uF	50V	D150	8-719-404-46	DIODE MA110
C753	1-163-103-00	CERAMIC CHIP	27PF	5% 50V	D151	8-719-404-46	DIODE MA110
C754	1-163-031-11	CERAMIC CHIP	0.01uF	50V	D300	8-719-949-46	DIODE 1T32
C755	1-126-295-11	ELECT CHIP	47uF	20% 6.3V	D301	8-719-404-45	DIODE MA110
C756	1-163-103-00	CERAMIC CHIP	27PF	5% 50V	D450	8-719-801-78	DIODE 1SS184
C757	1-163-117-00	CERAMIC CHIP	100PF	5% 50V	D500	8-719-940-45	DIODE DWAD10
C758	1-163-117-00	CERAMIC CHIP	100PF	5% 50V	D800	8-713-300-68	DIODE 1T33C-01
C759	1-216-295-00	METAL CHIP	0 5% 1/10W		D801	8-719-801-78	DIODE 1SS184
C760	1-163-031-11	CERAMIC CHIP	0.01uF	50V		< FERRITE BEAD >	
C761	1-163-031-11	CERAMIC CHIP	0.01uF	50V	FB100	1-543-256-11	BEAD, FERRITE
C762	1-124-778-00	ELECT CHIP	22uF	20% 6.3V	FB101	1-543-256-11	BEAD, FERRITE
C763	1-163-038-00	CERAMIC CHIP	0.1uF	50V	FB103	1-543-256-11	BEAD, FERRITE
C765	1-164-232-11	CERAMIC CHIP	0.01uF	50V	FB104	1-543-256-11	BEAD, FERRITE
C769	1-163-107-00	CERAMIC CHIP	39PF	5% 50V	FB401	1-412-390-21	INDUCTOR CHIP OuH
C800	1-163-038-00	CERAMIC CHIP	0.1uF	25V	FB402	1-412-390-21	INDUCTOR CHIP OuH
C801	1-126-205-11	ELECT CHIP	47uF	20% 6.3V	FB403	1-412-390-21	INDUCTOR CHIP OuH
C802	1-164-232-11	CERAMIC CHIP	0.01uF	50V	FB404	1-412-390-21	INDUCTOR CHIP OuH
C803	1-126-193-11	ELECT	1uF	20% 50V	FB405	1-412-390-21	INDUCTOR CHIP OuH
C804	1-164-232-11	CERAMIC CHIP	0.01uF	50V	FB406	1-412-390-21	INDUCTOR CHIP OuH
C805	1-163-017-00	CERAMIC CHIP	0.0047uF	5% 50V	FB407	1-412-390-21	INDUCTOR CHIP OuH
C806	1-164-182-11	CERAMIC CHIP	0.0033uF	10% 50V	FB408	1-412-390-21	INDUCTOR CHIP OuH
C807	1-126-602-11	ELECT CHIP	3.3uF	20% 50V	FB409	1-412-390-21	INDUCTOR CHIP OuH
C808	1-126-193-11	ELECT	1uF	20% 50V	FB451	1-412-390-21	INDUCTOR CHIP OuH
C809	1-163-125-00	CERAMIC CHIP	220PF	5% 50V	FB452	1-412-390-21	INDUCTOR CHIP OuH
C810	1-163-098-00	CERAMIC CHIP	16PF	5% 50V	FB453	1-412-390-21	INDUCTOR CHIP OuH
C812	1-163-038-00	CERAMIC CHIP	0.1uF	25V	FB454	1-412-390-21	INDUCTOR CHIP OuH
C813	1-163-009-11	CERAMIC CHIP	0.001uF	10% 50V	FB501	1-412-390-21	INDUCTOR CHIP OuH
C814	1-124-778-00	ELECT CHIP	22uF	20% 6.3V	FB502	1-412-390-21	INDUCTOR CHIP OuH
C815	1-163-031-11	CERAMIC CHIP	0.01uF	50V	FB503	1-412-390-21	INDUCTOR CHIP OuH
C816	1-163-031-11	CERAMIC CHIP	0.01uF	50V	FB801	1-412-390-21	INDUCTOR CHIP OuH
C817	1-163-127-00	CERAMIC CHIP	270PF	5% 50V		< FILTER >	
C818	1-163-139-00	CERAMIC CHIP	820PF	5% 50V	FL100	1-421-927-21	FILTER, NOISE
C819	1-163-038-00	CERAMIC CHIP	0.1uF	25V		< IC >	
C901	1-163-009-11	CERAMIC CHIP	0.001uF	10% 50V	IC100	8-759-157-22	IC PQ05T21U
C902	1-163-251-11	CERAMIC CHIP	100PF	5% 50V	IC150	8-759-011-65	IC MC74HC4053F
C904	1-163-031-11	CERAMIC CHIP	0.01uF	50V	IC200	8-752-334-55	IC CXD1175AM
C905	1-163-125-00	CERAMIC CHIP	220PF	5% 50V	IC250	8-752-334-55	IC CXD1175AM
		< CONNECTOR >			IC300	8-759-987-17	IC CXD1226Q
CN100	1-691-084-21	HOUSING, CONNECTOR 25P			IC400	8-752-340-52	IC CXX48324Q
		< VARIABLE CAPACITOR >			IC450	8-752-340-75	IC CXX1206AM
CY300	1-141-422-11	CAP. ADJ			IC500	8-759-046-43	IC CXD2108AQ
CV500	1-141-422-11	CAP. ADJ			IC570	8-759-232-74	IC T674HC163AF
CV600	1-141-311-11	CAP. TRIMMER 20PF			IC900	8-759-987-18	IC CXD1227Q
CV800	1-141-311-11	CAP. TRIMMER 20PF					

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
IC700	8-752-032-56	IC	CXA1106M	Q255	8-729-901-01	TRANSISTOR	DTC144EK
IC750	8-752-032-56	IC	CXA1106M	Q300	8-729-122-63	TRANSISTOR	2SA1226-P4
IC800	8-759-987-20	IC	CXD1229Q	Q301	8-729-102-08	TRANSISTOR	2SC2223-F14
IC900	8-759-239-55	IC	TC74HC123MF	Q570	8-729-901-01	TRANSISTOR	DTC144EK
IC901	8-759-239-34	IC	TC74HC4538AF	Q571	8-729-901-01	TRANSISTOR	DTC144EK
IC950	8-759-925-85	IC	SN74HC32ANS	Q572	8-729-901-01	TRANSISTOR	DTC144EK
IC951	8-759-925-76	IC	SN74HC08ANS	Q600	8-729-010-25	TRANSISTOR	MSD601-RT1
< COIL >				Q601	8-729-010-25	TRANSISTOR	MSD601-RT1
L100	1-412-062-11	INDUCTOR CHIP	47uH	Q700	8-729-010-25	TRANSISTOR	MSD601-RT1
L101	1-412-062-11	INDUCTOR CHIP	47uH	Q701	8-729-010-25	TRANSISTOR	MSD601-RT1
L200	1-410-388-31	INDUCTOR CHIP	39uH	Q703	8-729-010-25	TRANSISTOR	MSD601-RT1
L201	1-410-388-31	INDUCTOR CHIP	47uH	Q704	8-729-010-25	TRANSISTOR	MSD601-RT1
L250	1-410-388-31	INDUCTOR CHIP	39uH	Q750	8-729-010-05	TRANSISTOR	MSB709-RT1
L251	1-410-388-31	INDUCTOR CHIP	47uH	Q751	8-729-010-25	TRANSISTOR	MSD601-RT1
L300	1-412-062-11	INDUCTOR CHIP	47uH	Q752	8-729-010-25	TRANSISTOR	MSD601-RT1
L301	1-410-373-31	INDUCTOR CHIP	2.2uH	Q754	8-729-010-25	TRANSISTOR	MSD601-RT1
L400	1-410-388-31	INDUCTOR CHIP	47uH	Q755	8-729-010-25	TRANSISTOR	MSD601-RT1
L450	1-410-388-31	INDUCTOR CHIP	47uH	Q756	8-729-120-28	TRANSISTOR	2SC1623-LSL6
L500	1-412-062-11	INDUCTOR CHIP	47uH	Q757	8-729-120-28	TRANSISTOR	2SC1623-LSL6
L600	1-412-062-11	INDUCTOR CHIP	47uH	Q800	8-729-010-05	TRANSISTOR	MSB709-RT1
L601	1-410-390-11	INDUCTOR CHIP	56uH	Q801	8-729-010-05	TRANSISTOR	MSB709-RT1
L802	1-410-390-11	INDUCTOR CHIP	56uH	< RESISTOR >			
L700	1-410-380-31	INDUCTOR CHIP	8.2uH	R100	1-216-049-00	METAL CHIP	1K 5% 1/10W
L701	1-410-383-31	INDUCTOR CHIP	15uH	R102	1-216-049-00	METAL CHIP	1K 5% 1/10W
L702	1-410-393-11	INDUCTOR CHIP	100uH	R103	1-216-041-00	METAL CHIP	470 5% 1/10W
L750	1-410-388-31	INDUCTOR CHIP	47uH	R104	1-216-041-00	METAL CHIP	470 5% 1/10W
L751	1-410-382-31	INDUCTOR CHIP	12uH	R105	1-216-049-00	METAL CHIP	1K 5% 1/10W
L752	1-410-389-31	INDUCTOR CHIP	47uH	R106	1-216-049-00	METAL CHIP	1K 5% 1/10W
L753	1-410-382-31	INDUCTOR CHIP	12uH	R110	1-216-088-91	METAL GLAZE	47K 5% 1/10W
L754	1-410-389-31	INDUCTOR CHIP	47uH	R150	1-216-049-00	METAL CHIP	1K 5% 1/10W
L755	1-410-389-31	INDUCTOR CHIP	47uH	R151	1-216-081-00	METAL CHIP	22K 5% 1/10W
L800	1-410-377-31	INDUCTOR CHIP	4.7uH	R152	1-216-089-91	METAL GLAZE	47K 5% 1/10W
L801	1-412-062-11	INDUCTOR CHIP	47uH	R153	1-216-040-00	METAL GLAZE	430 5% 1/10W
L802	1-410-856-11	INDUCTOR CHIP	150uH	R154	1-216-049-00	METAL CHIP	1K 5% 1/10W
< TRANSISTOR >				R155	1-216-077-00	METAL CHIP	15K 5% 1/10W
Q150	8-729-402-19	TRANSISTOR	XW6501	R156	1-216-081-00	METAL CHIP	3.3K 5% 1/10W
Q153	8-729-010-25	TRANSISTOR	MSD601-RT1	R157	1-216-049-00	METAL CHIP	1K 5% 1/10W
Q154	8-729-010-25	TRANSISTOR	MSD601-RT1	R158	1-216-088-91	METAL GLAZE	47K 5% 1/10W
Q155	8-729-010-25	TRANSISTOR	MSD601-RT1	R159	1-216-085-00	METAL CHIP	33K 5% 1/10W
Q200	8-729-010-25	TRANSISTOR	MSD601-RT1	R160	1-216-688-11	METAL CHIP	39K 0.5% 1/10W
Q201	8-729-010-25	TRANSISTOR	MSD601-RT1	R161	1-216-049-00	METAL CHIP	1K 5% 1/10W
Q203	8-729-010-25	TRANSISTOR	MSD601-RT1	R162	1-216-089-91	METAL GLAZE	47K 5% 1/10W
Q250	8-729-010-25	TRANSISTOR	MSD601-RT1	R163	1-216-069-00	METAL CHIP	6.8K 5% 1/10W
Q251	8-729-010-25	TRANSISTOR	MSD601-RT1	R164	1-216-065-00	METAL CHIP	4.7K 5% 1/10W
Q253	8-729-010-25	TRANSISTOR	MSD601-RT1	R165	1-216-295-00	METAL CHIP	0 5% 1/10W
Q254	8-729-010-25	TRANSISTOR	MSD601-RT1	R166	1-216-295-00	METAL CHIP	0 5% 1/10W
				R167	1-216-089-91	METAL GLAZE	47K 5% 1/10W

Ref. No.	Part No.	Description	Remark			Ref. No.	Part No.	Description	Remark		
R168	1-216-089-01	METAL GLAZE	47K	5%	1/10W	R274	1-216-089-01	METAL GLAZE	47K	5%	1/10W
R169	1-216-049-00	METAL CHIP	1K	5%	1/10W	R301	1-216-295-00	METAL CHIP	0	5%	1/10W
R171	1-216-089-01	METAL GLAZE	47K	5%	1/10W	R303	1-216-295-00	METAL CHIP	0	5%	1/10W
R200	1-216-049-00	METAL CHIP	1K	5%	1/10W	R305	1-216-019-00	METAL CHIP	56	5%	1/10W
R201	1-216-037-00	METAL CHIP	330	5%	1/10W	R306	1-216-019-00	METAL CHIP	56	5%	1/10W
R203	1-216-049-00	METAL CHIP	1K	5%	1/10W	R307	1-216-019-00	METAL CHIP	56	5%	1/10W
R204	1-216-073-00	METAL CHIP	10K	5%	1/10W	R308	1-216-019-00	METAL CHIP	56	5%	1/10W
R205	1-216-041-00	METAL CHIP	470	5%	1/10W	R309	1-216-019-00	METAL CHIP	56	5%	1/10W
R206	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	R310	1-216-019-00	METAL CHIP	56	5%	1/10W
R207	1-216-025-00	METAL CHIP	100	5%	1/10W	R311	1-216-019-00	METAL CHIP	56	5%	1/10W
R208	1-216-075-00	METAL CHIP	12K	5%	1/10W	R312	1-216-019-00	METAL CHIP	56	5%	1/10W
R209	1-216-073-00	METAL CHIP	10K	5%	1/10W	R313	1-216-019-00	METAL CHIP	56	5%	1/10W
R211	1-216-081-00	METAL CHIP	22K	5%	1/10W	R314	1-216-019-00	METAL CHIP	56	5%	1/10W
R212	1-216-049-00	METAL CHIP	1K	5%	1/10W	R315	1-216-019-00	METAL CHIP	56	5%	1/10W
R213	1-216-025-00	METAL CHIP	100	5%	1/10W	R316	1-216-019-00	METAL CHIP	56	5%	1/10W
R214	1-216-295-00	METAL CHIP	0	5%	1/10W	R317	1-216-085-00	METAL CHIP	33K	5%	1/10W
R215	1-216-295-00	METAL CHIP	0	5%	1/10W	R318	1-216-121-00	METAL CHIP	1M	5%	1/10W
R216	1-216-019-00	METAL CHIP	56	5%	1/10W	R319	1-216-097-00	METAL CHIP	100K	5%	1/10W
R217	1-216-019-00	METAL CHIP	56	5%	1/10W	R320	1-216-073-00	METAL CHIP	10K	5%	1/10W
R218	1-216-019-00	METAL CHIP	56	5%	1/10W	R321	1-216-105-00	METAL CHIP	220K	5%	1/10W
R219	1-216-019-00	METAL CHIP	56	5%	1/10W	R322	1-216-111-00	METAL CHIP	390K	5%	1/10W
R220	1-216-019-00	METAL CHIP	56	5%	1/10W	R323	1-216-085-00	METAL CHIP	33K	5%	1/10W
R221	1-216-019-00	METAL CHIP	56	5%	1/10W	R324	1-216-119-00	METAL CHIP	820K	5%	1/10W
R222	1-216-019-00	METAL CHIP	56	5%	1/10W	R325	1-216-097-00	METAL CHIP	100K	5%	1/10W
R223	1-216-019-00	METAL CHIP	56	5%	1/10W	R327	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R250	1-216-049-00	METAL CHIP	1K	5%	1/10W	R328	1-216-121-00	METAL CHIP	1M	5%	1/10W
R251	1-216-049-00	METAL CHIP	1K	5%	1/10W	R329	1-216-295-00	METAL CHIP	0	5%	1/10W
R252	1-216-073-00	METAL CHIP	10K	5%	1/10W	R330	1-216-097-00	METAL CHIP	100K	5%	1/10W
R253	1-216-039-00	METAL CHIP	390	5%	1/10W	R331	1-216-105-00	METAL CHIP	220K	5%	1/10W
R254	1-216-049-00	METAL CHIP	1K	5%	1/10W	R332	1-216-111-00	METAL CHIP	390K	5%	1/10W
R255	1-216-001-00	METAL CHIP	3.3K	5%	1/10W	R333	1-216-295-00	METAL CHIP	0	5%	1/10W
R257	1-216-073-00	METAL CHIP	10K	5%	1/10W	R334	1-216-119-00	METAL CHIP	820K	5%	1/10W
R258	1-216-081-00	METAL CHIP	22K	5%	1/10W	R335	1-216-295-00	METAL CHIP	0	5%	1/10W
R259	1-216-025-00	METAL CHIP	100	5%	1/10W	R337	1-216-049-00	METAL CHIP	1K	5%	1/10W
R260	1-216-053-00	METAL CHIP	1.5K	5%	1/10W	R338	1-216-025-00	METAL CHIP	100	5%	1/10W
R261	1-216-295-00	METAL CHIP	0	5%	1/10W	R339	1-216-013-00	METAL CHIP	33	5%	1/10W
R262	1-216-073-00	METAL CHIP	10K	5%	1/10W	R340	1-216-041-00	METAL CHIP	470	5%	1/10W
R263	1-216-073-00	METAL CHIP	10K	5%	1/10W	R341	1-216-077-00	METAL CHIP	15K	5%	1/10W
R264	1-216-009-00	METAL CHIP	22	5%	1/10W	R342	1-216-077-00	METAL CHIP	15K	5%	1/10W
R265	1-216-019-00	METAL CHIP	56	5%	1/10W	R400	1-216-019-00	METAL CHIP	56	5%	1/10W
R266	1-216-019-00	METAL CHIP	56	5%	1/10W	R401	1-216-019-00	METAL CHIP	56	5%	1/10W
R267	1-216-019-00	METAL CHIP	56	5%	1/10W	R402	1-216-019-00	METAL CHIP	56	5%	1/10W
R268	1-216-019-00	METAL CHIP	56	5%	1/10W	R403	1-216-019-00	METAL CHIP	56	5%	1/10W
R269	1-216-019-00	METAL CHIP	56	5%	1/10W	R404	1-216-019-00	METAL CHIP	56	5%	1/10W
R270	1-216-019-00	METAL CHIP	56	5%	1/10W	R405	1-216-019-00	METAL CHIP	56	5%	1/10W
R271	1-216-019-00	METAL CHIP	56	5%	1/10W	R406	1-216-019-00	METAL CHIP	56	5%	1/10W
R272	1-216-019-00	METAL CHIP	56	5%	1/10W	R407	1-216-019-00	METAL CHIP	56	5%	1/10W
R273	1-216-049-00	METAL CHIP	1K	5%	1/10W	R408	1-216-019-00	METAL CHIP	56	5%	1/10W
						R413	1-216-019-00	METAL CHIP	56	5%	1/10W

Ref. No.	Part No.	Description		Remark
R451	1-216-019-00	METAL CHIP	56	5% 1/10W
R452	1-216-019-00	METAL CHIP	56	5% 1/10W
R453	1-216-019-00	METAL CHIP	56	5% 1/10W
R454	1-216-019-00	METAL CHIP	56	5% 1/10W
R455	1-216-065-00	METAL CHIP	4.7K	5% 1/10W
R456	1-216-019-00	METAL CHIP	56	5% 1/10W
R457	1-216-019-00	METAL CHIP	56	5% 1/10W
R462	1-216-019-00	METAL CHIP	56	5% 1/10W
R500	1-216-019-00	METAL CHIP	56	5% 1/10W
R501	1-216-019-00	METAL CHIP	56	5% 1/10W
R502	1-216-019-00	METAL CHIP	56	5% 1/10W
R503	1-216-019-00	METAL CHIP	56	5% 1/10W
R504	1-216-019-00	METAL CHIP	56	5% 1/10W
R505	1-216-019-00	METAL CHIP	56	5% 1/10W
R506	1-216-019-00	METAL CHIP	56	5% 1/10W
R509	1-216-019-00	METAL CHIP	56	5% 1/10W
R510	1-216-019-00	METAL CHIP	56	5% 1/10W
R511	1-216-019-00	METAL CHIP	56	5% 1/10W
R512	1-216-019-00	METAL CHIP	56	5% 1/10W
R513	1-216-019-00	METAL CHIP	56	5% 1/10W
R514	1-216-019-00	METAL CHIP	56	5% 1/10W
R515	1-216-019-00	METAL CHIP	56	5% 1/10W
R516	1-216-019-00	METAL CHIP	56	5% 1/10W
R517	1-216-019-00	METAL CHIP	56	5% 1/10W
R518	1-216-019-00	METAL CHIP	56	5% 1/10W
R519	1-216-019-00	METAL CHIP	56	5% 1/10W
R520	1-216-019-00	METAL CHIP	56	5% 1/10W
R521	1-216-019-00	METAL CHIP	56	5% 1/10W
R522	1-216-019-00	METAL CHIP	56	5% 1/10W
R523	1-216-019-00	METAL CHIP	56	5% 1/10W
R524	1-216-019-00	METAL CHIP	56	5% 1/10W
R525	1-216-019-00	METAL CHIP	56	5% 1/10W
R526	1-216-019-00	METAL CHIP	56	5% 1/10W
R528	1-216-019-00	METAL CHIP	56	5% 1/10W
R529	1-216-019-00	METAL CHIP	56	5% 1/10W
R530	1-216-019-00	METAL CHIP	56	5% 1/10W
R531	1-216-019-00	METAL CHIP	56	5% 1/10W
R532	1-216-019-00	METAL CHIP	56	5% 1/10W
R533	1-216-019-00	METAL CHIP	56	5% 1/10W
R534	1-216-019-00	METAL CHIP	56	5% 1/10W
R535	1-216-073-00	METAL CHIP	10K	5% 1/10W
R536	1-216-089-91	METAL GLAZE	47K	5% 1/10W
R537	1-216-089-91	METAL GLAZE	47K	5% 1/10W
R538	1-216-019-00	METAL CHIP	56	5% 1/10W
R539	1-216-019-00	METAL CHIP	56	5% 1/10W
R540	1-216-285-00	METAL CHIP	0	5% 1/10W
R541	1-216-019-00	METAL CHIP	56	5% 1/10W
R542	1-216-019-00	METAL CHIP	56	5% 1/10W
R543	1-216-019-00	METAL CHIP	56	5% 1/10W

Ref. No.	Part No.	Description			Remarks
R544	1-216-019-00	METAL CHIP	56	5%	1/10W
R545	1-216-019-00	METAL CHIP	56	5%	1/10W
R546	1-216-019-00	METAL CHIP	56	5%	1/10W
R547	1-216-019-00	METAL CHIP	56	5%	1/10W
R548	1-216-019-00	METAL CHIP	56	5%	1/10W
R549	1-216-019-00	METAL CHIP	56	5%	1/10W
R550	1-216-019-00	METAL CHIP	56	5%	1/10W
R551	1-216-019-00	METAL CHIP	56	5%	1/10W
R552	1-216-019-00	METAL CHIP	56	5%	1/10W
R553	1-216-019-00	METAL CHIP	56	5%	1/10W
R554	1-216-019-00	METAL CHIP	56	5%	1/10W
R555	1-216-019-00	METAL CHIP	56	5%	1/10W
R556	1-216-019-00	METAL CHIP	56	5%	1/10W
R557	1-216-019-00	METAL CHIP	56	5%	1/10W
R558	1-216-019-00	METAL CHIP	56	5%	1/10W
R559	1-216-295-00	METAL CHIP	0	5%	1/10W
R560	1-216-029-00	METAL CHIP	150	5%	1/10W
R561	1-216-121-00	METAL CHIP	1M	5%	1/10W
R564	1-216-019-00	METAL CHIP	56	5%	1/10W
R570	1-216-089-81	METAL GLAZE	47K	5%	1/10W
R571	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R572	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R573	1-216-295-00	METAL CHIP	0	5%	1/10W
R574	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R600	1-216-029-00	METAL CHIP	150	5%	1/10W
R601	1-216-121-00	METAL CHIP	1M	5%	1/10W
R603	1-216-019-00	METAL CHIP	56	5%	1/10W
R604	1-216-019-00	METAL CHIP	56	5%	1/10W
R605	1-216-019-00	METAL CHIP	56	5%	1/10W
R606	1-216-019-00	METAL CHIP	56	5%	1/10W
R607	1-216-019-00	METAL CHIP	56	5%	1/10W
R608	1-216-019-00	METAL CHIP	56	5%	1/10W
R609	1-216-019-00	METAL CHIP	56	5%	1/10W
R610	1-216-019-00	METAL CHIP	56	5%	1/10W
R611	1-216-019-00	METAL CHIP	56	5%	1/10W
R612	1-216-019-00	METAL CHIP	56	5%	1/10W
R613	1-216-019-00	METAL CHIP	56	5%	1/10W
R614	1-216-019-00	METAL CHIP	56	5%	1/10W
R615	1-216-019-00	METAL CHIP	56	5%	1/10W
R616	1-216-019-00	METAL CHIP	56	5%	1/10W
R617	1-216-019-00	METAL CHIP	56	5%	1/10W
R618	1-216-019-00	METAL CHIP	56	5%	1/10W
R619	1-216-295-00	METAL CHIP	0	5%	1/10W
R621	1-216-295-00	METAL CHIP	0	5%	1/10W
R623	1-216-295-00	METAL CHIP	0	5%	1/10W
R625	1-216-037-00	METAL CHIP	330	5%	1/10W
R626	1-216-073-00	METAL CHIP	10K	5%	1/10W
R627	1-216-073-00	METAL CHIP	10K	5%	1/10W
R628	1-216-049-00	METAL CHIP	1K	5%	1/10W

Ref. No.	Part No.	Description	Remark		
R630	1-216-049-00	METAL CHIP	1K	5%	1/10W
R631	1-216-037-00	METAL CHIP	330	5%	1/10W
R632	1-216-073-00	METAL CHIP	10K	5%	1/10W
R633	1-216-073-00	METAL CHIP	10K	5%	1/10W
R634	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R700	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R701	1-216-025-00	METAL CHIP	100	5%	1/10W
R702	1-216-037-00	METAL CHIP	330	5%	1/10W
R704	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R705	1-216-041-00	METAL CHIP	470	5%	1/10W
R706	1-216-073-00	METAL CHIP	10K	5%	1/10W
R707	1-216-081-00	METAL CHIP	22K	5%	1/10W
R708	1-216-041-00	METAL CHIP	470	5%	1/10W
R709	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R710	1-216-035-00	METAL CHIP	270	5%	1/10W
R711	1-216-041-00	METAL CHIP	470	5%	1/10W
R712	1-216-025-00	METAL CHIP	100	5%	1/10W
R713	1-216-295-00	METAL CHIP	0	5%	1/10W
R714	1-216-295-00	METAL CHIP	0	5%	1/10W
R715	1-216-295-00	METAL CHIP	0	5%	1/10W
R716	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R717	1-216-073-00	METAL CHIP	10K	5%	1/10W
R719	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R750	1-216-049-00	METAL CHIP	1K	5%	1/10W
R751	1-216-049-00	METAL CHIP	1K	5%	1/10W
R752	1-216-049-00	METAL CHIP	1K	5%	1/10W
R753	1-216-049-00	METAL CHIP	1K	5%	1/10W
R755	1-216-085-00	METAL CHIP	33K	5%	1/10W
R756	1-216-077-00	METAL CHIP	15K	5%	1/10W
R758	1-216-051-00	METAL CHIP	1.2K	5%	1/10W
R759	1-216-041-00	METAL CHIP	470	5%	1/10W
R760	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R761	1-216-041-00	METAL CHIP	470	5%	1/10W
R762	1-216-049-00	METAL CHIP	1K	5%	1/10W
R764	1-216-295-00	METAL CHIP	0	5%	1/10W
R765	1-216-295-00	METAL CHIP	0	5%	1/10W
R766	1-216-631-00	METAL CHIP	180	5%	1/10W
R767	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R768	1-216-037-00	METAL CHIP	330	5%	1/10W
R769	1-216-033-00	METAL CHIP	220	5%	1/10W
R770	1-216-073-00	METAL CHIP	10K	5%	1/10W
R772	1-216-045-00	METAL CHIP	680	5%	1/10W
R775	1-216-048-00	METAL CHIP	1K	5%	1/10W
R776	1-216-049-00	METAL CHIP	1K	5%	1/10W
R777	1-216-049-00	METAL CHIP	1K	5%	1/10W
R800	1-216-073-00	METAL CHIP	10K	5%	1/10W
R801	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R802	1-216-019-00	METAL CHIP	56	5%	1/10W
R803	1-216-049-00	METAL CHIP	1K	5%	1/10W

Ref. No.	Part No.	Description	Remark		
R804	1-216-049-00	METAL CHIP	1K	5%	1/10W
R805	1-216-021-00	METAL CHIP	68	5%	1/10W
R806	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R807	1-216-117-00	METAL CHIP	560K	5%	1/10W
R809	1-216-085-00	METAL CHIP	33K	5%	1/10W
R810	1-216-085-00	METAL CHIP	33K	5%	1/10W
R811	1-216-085-00	METAL CHIP	33K	5%	1/10W
R812	1-216-073-00	METAL CHIP	10K	5%	1/10W
R813	1-216-085-00	METAL CHIP	33K	5%	1/10W
R814	1-216-049-00	METAL CHIP	1K	5%	1/10W
R817	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R818	1-216-295-00	METAL CHIP	0	5%	1/10W
R819	1-216-295-00	METAL CHIP	0	5%	1/10W
R821	1-216-295-00	METAL CHIP	0	5%	1/10W
R824	1-216-295-00	METAL CHIP	0	5%	1/10W
R825	1-216-049-00	METAL CHIP	1K	5%	1/10W
R826	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R827	1-216-041-00	METAL CHIP	470	5%	1/10W
R900	1-216-295-00	METAL CHIP	0	5%	1/10W
R902	1-216-075-00	METAL CHIP	12K	5%	1/10W
R904	1-216-063-00	METAL CHIP	3.9K	5%	1/10W
R905	1-216-075-00	METAL CHIP	12K	5%	1/10W
R907	1-216-073-00	METAL CHIP	10K	5%	1/10W

< VARIABLE RESISTOR >

RV200 1-230-866-11 RES. ADJ. METAL 470
 RV700 1-230-866-11 RES. ADJ. METAL 470

< VIBRATOR >

X300 1-567-344-21 VIBRATOR, CRYSTAL (17.73MHz)
 X500 1-577-704-11 VIBRATOR, CRYSTAL (14.22MHz)
 X600 1-567-733-11 VIBRATOR, CRYSTAL (17.73MHz)

Ref. No. Part No. Description Remark
 * A-7063-935-A FJ-13 (C) BOARD, COMPLETE

 (Ref. No. 6,000 series)

1-751-602-11 CABLE, FLAT (FMM-9)

< CAPACITOR >

Ref. No.	Part No.	Description	Remark
C201	1-163-109-00	CERAMIC CHIP 47PF	5% 50V
C202	1-163-109-00	CERAMIC CHIP 47PF	5% 50V
C203	1-126-157-11	ELECT 10uF	20% 16V
C204	1-126-157-11	ELECT 10uF	20% 16V
C205	1-126-157-11	ELECT 10uF	20% 16V
C207	1-126-157-11	ELECT 10uF	20% 16V
C211	1-163-123-00	CERAMIC CHIP 180PF	5% 50V
C212	1-126-157-11	ELECT 10uF	20% 16V
C213	1-163-123-00	CERAMIC CHIP 180PF	5% 50V
C214	1-163-009-11	CERAMIC CHIP 0.001uF	10% 50V
C215	1-126-157-11	ELECT 10uF	20% 16V
C216	1-126-180-11	ELECT 1uF	20% 50V
C218	1-163-037-11	CERAMIC CHIP 0.022uF	10% 25V
C220	1-126-160-11	ELECT 1uF	20% 50V
C221	1-163-037-11	CERAMIC CHIP 0.022uF	10% 25V
C222	1-164-161-11	CERAMIC CHIP 0.0022uF	10% 100V
C223	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
C224	1-163-009-11	CERAMIC CHIP 0.001uF	10% 50V
C226	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
C250	1-124-779-00	ELECT 10uF	20% 16V

< CONNECTOR >

CN201 1-559-930-11 HOUSING, CONNECTOR 13P

< DIODE >

D203 8-719-420-14 DIODE MA8082-M
 D206 8-719-420-14 DIODE, MA8082-M

< IC >

IC201 8-759-771-82 IC NJM4580E
 IC202 8-759-924-49 IC BA4560F

< JACK >

J202 1-507-833-00 JACK (PHONES)
 J203 1-764-139-11 JACK (MIC)

< JUMPER RESISTOR >

Ref. No.	Part No.	Description	Remark
JR201	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR202	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR203	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR204	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR205	1-216-296-00	METAL CHIP 0 5% 1/8W	

Ref. No.	Part No.	Description	Remark
JR207	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR208	1-216-295-00	METAL CHIP 0 5% 1/10W	

< TRANSISTOR >

Ref. No.	Part No.	Description	Remark
Q201	8-729-010-25	TRANSISTOR MSD601-RT1	
Q202	8-729-010-25	TRANSISTOR MSD601-RT1	
Q203	8-729-010-25	TRANSISTOR MSD601-RT1	
Q250	8-729-010-25	TRANSISTOR MSD601-RT1	

< RESISTOR >

Ref. No.	Part No.	Description	Remark
R203	1-216-069-00	METAL CHIP 5.8K 5% 1/10W	
R204	1-216-079-00	METAL CHIP 18K 5% 1/10W	
R205	1-216-069-00	METAL CHIP 5.8K 5% 1/10W	
R206	1-216-079-00	METAL CHIP 18K 5% 1/10W	
R207	1-216-166-00	METAL GLAZE 47 5% 1/8W	
R208	1-216-017-00	METAL CHIP 47 5% 1/10W	
R209	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R210	1-216-071-00	METAL CHIP 8.2K 5% 1/10W	
R211	1-216-069-00	METAL CHIP 5.8K 5% 1/10W	
R212	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R213	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R214	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R215	1-216-083-00	METAL CHIP 27K 5% 1/10W	
R216	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R217	1-216-121-00	METAL CHIP 1M 5% 1/10W	
R218	1-216-025-00	METAL CHIP 100 5% 1/10W	
R219	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R220	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R221	1-216-061-00	METAL CHIP 22K 5% 1/10W	
R222	1-216-105-00	METAL CHIP 220K 5% 1/10W	
R223	1-216-059-00	METAL CHIP 2.7K 5% 1/10W	
R224	1-216-295-00	METAL CHIP 0 5% 1/10W	
R228	1-216-296-00	METAL CHIP 0 5% 1/8W	
R230	1-216-296-00	METAL CHIP 0 5% 1/8W	
R240	1-216-228-00	METAL GLAZE 18K 5% 1/8W	
R241	1-216-079-00	METAL CHIP 18K 5% 1/10W	
R250	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R251	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R252	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R253	1-216-069-00	METAL CHIP 5.8K 5% 1/10W	
R260	1-216-019-00	METAL CHIP 56 5% 1/10W	
R261	1-216-019-00	METAL CHIP 56 5% 1/10W	

< VARIABLE RESISTOR >

RV201 1-223-525-11 RES. VAR. CARBON 10K/10K

Ref. No.	Part No.	Description	Remark
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*	A-7063-933-A	FL-57 (G) BOARD, COMPLETE	

		(Ref. No 6,000 series)	

*	3-947-530-01	HOLDER, TERMINAL, S	
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< CAPACITOR >

C103	1-126-157-11	ELECT	10uF	20%	18V
C104	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C105	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C107	1-126-157-11	ELECT	10uF	20%	18V
C108	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C109	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C110	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C111	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C112	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C113	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C115	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C118	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C156	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C158	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C159	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C175	1-163-038-00	CERAMIC CHIP	0.1uF		25V

< CONNECTOR >

* CN101	1-991-074-11	HOUSING, CONNECTOR 15P	
CN102	1-569-340-11	CONNECTOR, BOARD TO BOARD 11P	

< DIODE >

D102	8-719-421-59	DIODE	MA3130WA-TX
D104	8-719-421-59	DIODE	MA3130WA-TX
D106	8-719-104-34	DIODE	1S2836
D107	8-719-421-59	DIODE	MA3130WA-TX
D109	8-719-421-59	DIODE	MA3130WA-TX
D110	8-719-420-14	DIODE	MA8082-M
D112	8-719-421-59	DIODE	MA3130WA-TX
D125	8-719-025-62	DIODE	SML1215W
D126	8-719-025-62	DIODE	SML1215W
D151	8-719-420-14	DIODE	MA8082-M
D152	8-719-420-14	DIODE	MA8082-M
D153	8-719-420-14	DIODE	MA8082-M
D155	8-719-420-14	DIODE	MA8082-M

< IC >

IC101	8-758-924-46	IC	BA4580F
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Ref. No.	Part No.	Description	Remark
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< JACK >

J101	1-566-850-31	CONNECTOR, (S) TERMINAL 4P (LINE IN 2)	
J102	1-695-920-21	JACK, ULTRA MINIATURE 1P (LAMP)	
J103	1-764-149-11	JACK, PIN 3P (LINE IN 2)	

< JUMPER RESISTOR >

JR100	1-216-298-00	METAL CHIP	0	5%	1/8W
JR101	1-216-295-00	METAL CHIP	0	5%	1/10W
JR102	1-216-295-00	METAL CHIP	0	5%	1/10W
JR103	1-216-295-00	METAL CHIP	0	5%	1/10W
JR104	1-216-298-00	METAL CHIP	0	5%	1/8W
JR105	1-216-298-00	METAL CHIP	0	5%	1/8W
JR106	1-216-298-00	METAL CHIP	0	5%	1/8W
JR107	1-216-295-00	METAL CHIP	0	5%	1/10W
JR109	1-216-295-00	METAL CHIP	0	5%	1/10W
JR110	1-216-298-00	METAL CHIP	0	5%	1/8W

JR111	1-216-295-00	METAL CHIP	0	5%	1/10W
JR112	1-216-298-00	METAL CHIP	0	5%	1/8W
JR113	1-216-295-00	METAL CHIP	0	5%	1/8W

< TRANSISTOR >

Q103	8-729-901-06	TRANSISTOR	DTA144EX
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< RESISTOR >

R102	1-216-097-00	METAL CHIP	100K	5%	1/10W
R105	1-216-001-00	METAL CHIP	10	5%	1/10W
R107	1-216-105-00	METAL CHIP	220K	5%	1/10W
R109	1-216-105-00	METAL CHIP	220K	5%	1/10W
R110	1-216-105-00	METAL CHIP	220K	5%	1/10W
R111	1-216-105-00	METAL CHIP	220K	5%	1/10W
R112	1-216-073-00	METAL CHIP	10K	5%	1/10W
R113	1-216-073-00	METAL CHIP	10K	5%	1/10W
R114	1-216-105-00	METAL CHIP	220K	5%	1/10W
R115	1-216-015-00	METAL CHIP	39	5%	1/10W
R116	1-216-015-00	METAL CHIP	39	5%	1/10W
R117	1-216-105-00	METAL CHIP	220K	5%	1/10W
R118	1-216-015-00	METAL CHIP	39	5%	1/10W
R119	1-216-015-00	METAL CHIP	39	5%	1/10W
R120	1-216-015-00	METAL CHIP	39	5%	1/10W
R121	1-216-015-00	METAL CHIP	39	5%	1/10W
R122	1-216-031-00	METAL CHIP	180	5%	1/10W
R123	1-216-029-00	METAL CHIP	150	5%	1/10W
R139	1-216-295-00	METAL CHIP	0	5%	1/10W
R140	1-216-295-00	METAL CHIP	0	5%	1/10W
R150	1-216-295-00	METAL CHIP	0	5%	1/10W
R160	1-216-031-00	METAL CHIP	180	5%	1/10W
R161	1-216-029-00	METAL CHIP	150	5%	1/10W
R179	1-216-295-00	METAL CHIP	0	5%	1/10W

FL-57

FM-16

Ref. No.	Part No.	Description	Remark		
R180	1-216-295-00	METAL CHIP	0	5%	1/10W
R181	1-216-296-00	METAL CHIP	0	5%	1/8W
R182	1-216-295-00	METAL CHIP	0	5%	1/10W
R183	1-216-049-00	METAL CHIP	1K	5%	1/10W
R184	1-216-049-00	METAL CHIP	1K	5%	1/10W

< SWITCH >

S101	1-571-977-11	SWITCH, TACTIL (POWER)
S102	1-571-977-11	SWITCH, TACTIL (RESET SW)
S103	1-571-977-11	SWITCH, TACTIL (OPEN/CLOSE)

* A-7063-838-A FM-16 (G) BOARD, COMPLETE

(Ref. No 7,000 series)

- 1-751-608-11 CABLE, FLAT (FMF-5)
- 3-831-441-11 CUSHION, CABINET (UPPER)
- 3-955-927-01 CASE (MAIN), SHIELD, DO
- 3-955-953-01 HOLDER, INDICATION TUBE

< CAPACITOR >

C101	1-163-239-11	CERAMIC CHIP	33PF	5%	50V
C103	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C104	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C106	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C107	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C108	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C109	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C111	1-126-157-11	ELECT	10uF	20%	16V
C117	1-124-638-11	ELECT	22uF	20%	10V
C118	1-124-638-11	ELECT	22uF	20%	10V
C121	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C122	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C123	1-126-154-11	ELECT	47uF	20%	6.3V
C124	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C125	1-126-157-11	ELECT	10uF	20%	16V
C126	1-126-157-11	ELECT	10uF	20%	16V
C201	1-163-011-11	CERAMIC CHIP	0.0015uF	10%	50V
C202	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C203	1-127-531-11	ELECT (SOLID)	33uF	20%	16V
C204	1-126-373-11	ELECT	470uF	20%	10V
C205	1-126-803-11	ELECT	47uF	20%	50V
C206	1-124-510-11	ELECT	220uF	20%	35V
C207	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C208	1-124-667-11	ELECT	10uF	20%	100V
C209	1-163-038-00	CERAMIC CHIP	0.1uF		25V

Ref. No.	Part No.	Description	Remark		
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< CONNECTOR >

- * CN101 1-565-854-11 CONNECTOR, F.P.C 25P
- * CN102 1-565-854-11 CONNECTOR, F.P.C 25P
- * CN103 1-563-602-11 CONNECTOR, FLEXIBLE 25P

< TRIMMER >

CT101	1-141-227-00	CAP, TRIMMER 20PF
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< DIODE >

D201	8-719-801-83	DIODE 1SS83
D202	8-719-901-83	DIODE 1SS83
D203	8-719-105-38	DIODE RD3.0M-B1
D204	8-719-420-48	DIODE MA701A

< IC >

IC101	8-759-252-48	IC MM89096PF-G
IC102	8-759-942-05	IC BA8800AFVC
IC103	8-759-183-18	IC CAT93C56K-LE10
IC104	8-759-183-20	IC PST5720MT-T2
IC105	8-759-518-38	IC PST5720MT

IC201	8-759-979-50	IC FA7610N
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< COIL >

L101	1-408-982-11	INDUCTOR 100uH
L102	1-408-982-11	INDUCTOR 100uH
L203	1-410-794-11	INDUCTOR 330uH

< FLUORESCENT INDICATOR >

ND101	1-517-189-11	INDICATOR TUBE, FLUORESCENT
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< TRANSISTOR >

Q102	8-729-424-56	TRANSISTOR UN211L
Q103	8-729-424-56	TRANSISTOR UN211L
Q201	8-729-823-29	TRANSISTOR 2SD1805FA-F

< RESISTOR >

R101	1-216-295-00	METAL CHIP	0	5%	1/10W
R102	1-410-987-31	INDUCTOR CHIP	2.2uH		
R103	1-216-049-00	METAL CHIP	1K	5%	1/10W
R104	1-216-049-00	METAL CHIP	1K	5%	1/10W
R105	1-216-049-00	METAL CHIP	1K	5%	1/10W
R106	1-216-037-00	METAL CHIP	330	5%	1/10W
R107	1-216-037-00	METAL CHIP	330	5%	1/10W
R108	1-216-037-00	METAL CHIP	330	5%	1/10W
R109	1-216-049-00	METAL CHIP	1K	5%	1/10W
R110	1-216-037-00	METAL CHIP	330	5%	1/10W
R111	1-216-073-00	METAL CHIP	10K	5%	1/10W

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
R112	1-216-037-00	METAL CHIP	330 5% 1/10W	R168	1-218-097-00	METAL CHIP	100K 5% 1/10W
R113	1-216-295-00	METAL CHIP	0 5% 1/10W	R169	1-216-097-00	METAL CHIP	100K 5% 1/10W
R114	1-414-235-11	INDUCTOR, FERRITE BEAD		R170	1-218-097-00	METAL CHIP	100K 5% 1/10W
R115	1-216-037-00	METAL CHIP	330 5% 1/10W	R171	1-216-097-00	METAL CHIP	100K 5% 1/10W
R116	1-216-049-00	METAL CHIP	1K 5% 1/10W	R172	1-218-097-00	METAL CHIP	100K 5% 1/10W
R118	1-216-295-00	METAL CHIP	0 5% 1/10W	R173	1-216-097-00	METAL CHIP	100K 5% 1/10W
R119	1-216-037-00	METAL CHIP	330 5% 1/10W	R174	1-216-097-00	METAL CHIP	100K 5% 1/10W
R120	1-216-037-00	METAL CHIP	330 5% 1/10W	R175	1-216-097-00	METAL CHIP	100K 5% 1/10W
R121	1-216-037-00	METAL CHIP	330 5% 1/10W	R176	1-216-097-00	METAL CHIP	100K 5% 1/10W
R122	1-216-037-00	METAL CHIP	330 5% 1/10W	R177	1-216-097-00	METAL CHIP	100K 5% 1/10W
R123	1-216-037-00	METAL CHIP	330 5% 1/10W	R178	1-216-097-00	METAL CHIP	100K 5% 1/10W
R124	1-216-049-00	METAL CHIP	1K 5% 1/10W	R179	1-216-097-00	METAL CHIP	100K 5% 1/10W
R125	1-216-037-00	METAL CHIP	330 5% 1/10W	R180	1-216-097-00	METAL CHIP	100K 5% 1/10W
R126	1-414-235-11	INDUCTOR, FERRITE BEAD		R181	1-216-097-00	METAL CHIP	100K 5% 1/10W
R127	1-216-037-00	METAL CHIP	330 5% 1/10W	R182	1-216-097-00	METAL CHIP	100K 5% 1/10W
R128	1-216-073-00	METAL CHIP	10K 5% 1/10W	R183	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R129	1-216-049-00	METAL CHIP	1K 5% 1/10W	R184	1-216-037-00	METAL CHIP	330 5% 1/10W
R130	1-216-295-00	METAL CHIP	0 5% 1/10W	R185	1-216-049-00	METAL CHIP	1K 5% 1/10W
R131	1-414-235-11	INDUCTOR, FERRITE BEAD		R186	1-216-049-00	METAL CHIP	1K 5% 1/10W
R132	1-216-037-00	METAL CHIP	330 5% 1/10W	R188	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R133	1-216-037-00	METAL CHIP	330 5% 1/10W	R188	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R134	1-216-037-00	METAL CHIP	330 5% 1/10W	R190	1-216-295-00	METAL CHIP	0 5% 1/10W
R135	1-216-049-00	METAL CHIP	1K 5% 1/10W	R191	1-216-049-00	METAL CHIP	1K 5% 1/10W
R137	1-216-049-00	METAL CHIP	1K 5% 1/10W	R192	1-216-073-00	METAL CHIP	10K 5% 1/10W
R138	1-216-073-00	METAL CHIP	10K 5% 1/10W	R194	1-216-049-00	METAL CHIP	1K 5% 1/10W
R139	1-216-037-00	METAL CHIP	330 5% 1/10W	R195	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
R140	1-216-037-00	METAL CHIP	330 5% 1/10W	R196	1-216-037-00	METAL CHIP	330 5% 1/10W
R142	1-216-037-00	METAL CHIP	330 5% 1/10W	R197	1-216-295-00	METAL CHIP	0 5% 1/10W
R143	1-216-097-00	METAL CHIP	100K 5% 1/10W	R199	1-216-295-00	METAL CHIP	0 5% 1/10W
R144	1-216-037-00	METAL CHIP	330 5% 1/10W	R201	1-210-162-11	FUSIBLE	3.3 5% 1/4W F
R145	1-216-073-00	METAL CHIP	10K 5% 1/10W	R202	1-216-103-91	METAL GLAZE	180K 5% 1/10W
R146	1-216-115-00	METAL CHIP	580K 5% 1/10W	R203	1-216-117-00	METAL CHIP	580K 5% 1/10W
R147	1-216-295-00	METAL CHIP	0 5% 1/10W	R204	1-216-076-00	METAL CHIP	13K 5% 1/10W
R149	1-216-089-91	METAL GLAZE	47K 5% 1/10W	R205	1-216-105-00	METAL CHIP	220K 5% 1/10W
R152	1-216-097-00	METAL CHIP	100K 5% 1/10W	R206	1-216-671-11	METAL CHIP	6.8K 0.5% 1/10W
R153	1-218-097-00	METAL CHIP	100K 5% 1/10W	R207	1-216-649-11	METAL CHIP	820 0.5% 1/10W
R154	1-218-097-00	METAL CHIP	100K 5% 1/10W	R208	1-216-693-11	METAL CHIP	56K 0.5% 1/10W
R155	1-216-065-00	METAL CHIP	4.7K 5% 1/10W	R209	1-216-669-11	METAL CHIP	5.6K 0.5% 1/10W
R157	1-216-089-91	METAL GLAZE	47K 5% 1/10W	R211	1-216-073-00	METAL CHIP	10K 5% 1/10W
R158	1-216-089-91	METAL GLAZE	47K 5% 1/10W	R212	1-216-295-00	METAL CHIP	0 5% 1/10W
R159	1-216-035-00	METAL CHIP	270 5% 1/10W	R250	1-216-295-00	METAL CHIP	0 5% 1/10W
R160	1-216-049-00	METAL CHIP	1K 5% 1/10W	R251	1-216-295-00	METAL CHIP	0 5% 1/10W
R161	1-216-035-00	METAL CHIP	270 5% 1/10W	< SWITCH >			
R162	1-216-049-00	METAL CHIP	1K 5% 1/10W	S101	1-572-561-11	SWITCH, SLIDE (REMOCOM MODE)	
R163	1-216-049-00	METAL CHIP	1K 5% 1/10W	< TRANSFORMER >			
R164	1-216-049-00	METAL CHIP	1K 5% 1/10W	T201	1-423-845-11	TRANSFORMER, CONVERTER	
R165	1-216-097-00	METAL CHIP	100K 5% 1/10W				
R166	1-216-097-00	METAL CHIP	100K 5% 1/10W				
R167	1-216-097-00	METAL CHIP	100K 5% 1/10W				

Ref. No.	Part No.	Description	Remark
< VIBRATOR >			
X101	1-567-058-31	VIBRATOR, CRYSTAL (32kHz)	
X102	1-578-126-11	VIBRATOR, CERAMIC (10MHz)	

*	A-7063-934-A	FR-82 (G) BOARD, COMPLETE	

(Ref. No. 5,000 series)			
	3-955-837-01	ILLUMINATOR	
*	3-955-838-01	PLATE, GROUND, LCD	
*	3-955-930-01	PLATE, LIGHT GUIDE, LCD	
*	3-955-931-01	HOLDER, LCD	
< CAPACITOR >			
C301	1-126-157-11	ELECT 10uF 20% 16V	
C302	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C303	1-124-589-11	ELECT 47uF 20% 16V	
C304	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C310	1-163-007-11	CERAMIC CHIP 880PF 10% 50V	
< CONNECTOR >			
CN301	1-563-824-11	HOUSING, CONNECTOR 21P	
CN302	1-569-337-11	CONNECTOR, BOARD TO BOARD 11P	
< DIODE >			
D301	8-719-920-05	LED SLP281C-50 (H18)	
D302	8-719-812-31	LED TLR123 (REC)	
D303	8-719-812-31	LED TLR123 (TIMER REC)	
D304	8-719-812-32	LED TLY123 (VOICE BOOST)	
D305	8-719-812-32	LED TLY123 (VPS)	
D307	8-719-920-05	LED SLP281C-50 (CASSETTE)	
D320	8-719-800-76	DIODE 1SS226	
< IC >			
IC301	8-741-100-81	IC SBX1617-51	
IC302	8-759-171-25	IC LC7582E	
< JUMPER RESISTOR >			
JR301	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR302	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR303	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR304	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR305	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR306	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR307	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR308	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR309	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR310	1-216-295-00	METAL CHIP 0 5% 1/10W	

Ref. No.	Part No.	Description	Remark
JR311	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR312	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR313	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR314	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR315	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR316	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR317	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR318	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR319	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR320	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR321	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR322	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR323	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR324	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR325	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR326	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR327	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR328	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR329	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR330	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR331	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR332	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR333	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR334	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR335	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR336	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR337	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR338	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR339	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR341	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR343	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR344	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR345	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR346	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR347	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR348	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR349	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR350	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR351	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR352	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR353	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR354	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR355	1-216-296-00	METAL CHIP 0 5% 1/8W	

< LIQUID CRYSTAL DISPLAY >

LCD301 1-810-324-21 DISPLAY PANEL, LIQUID CRYSTAL

Ref. No.	Part No.	Description	Remark
< PILOT LAMP >			
PL301	1-517-243-11	LAMP, PILOT	
PL302	1-517-243-11	LAMP, PILOT	
< TRANSISTOR >			
Q303	8-729-421-19	TRANSISTOR UN2213	
Q304	8-729-421-19	TRANSISTOR UN2213	
Q305	8-729-421-19	TRANSISTOR UN2213	
Q307	8-729-421-19	TRANSISTOR UN2213	
Q321	8-729-420-74	TRANSISTOR 2SD1328-RST	
< RESISTOR >			
R301	1-216-031-00	METAL CHIP 180 5% 1/10W	
R302	1-216-031-00	METAL CHIP 180 5% 1/10W	
R303	1-216-031-00	METAL CHIP 180 5% 1/10W	
R304	1-216-031-00	METAL CHIP 180 5% 1/10W	
R305	1-216-031-00	METAL CHIP 180 5% 1/10W	
R306	1-216-336-11	METAL CHIP 47K 1% 1/10W	
R307	1-216-031-00	METAL CHIP 180 5% 1/10W	
R308	1-216-033-00	METAL CHIP 220 5% 1/10W	
R310	1-216-336-11	METAL CHIP 47K 1% 1/10W	
R311	1-216-336-11	METAL CHIP 47K 1% 1/10W	
R312	1-216-295-00	METAL CHIP 0 5% 1/10W	
R315	1-216-295-00	METAL CHIP 0 5% 1/10W	
R320	1-216-043-00	METAL CHIP 560 5% 1/10W	
R321	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R322	1-216-295-00	METAL CHIP 0 5% 1/8W	
R323	1-216-296-00	METAL CHIP 0 5% 1/8W	
R330	1-216-295-00	METAL CHIP 0 5% 1/10W	
R350	1-216-295-00	METAL CHIP 0 5% 1/10W	
< SWITCH >			
S301	1-571-977-11	SWITCH, TACTIL (EJECT)	

Ref. No.	Part No.	Description	Remark
* A-7063-927-A MA-173 (G) BOARD, COMPLETE (VC) * A-7063-993-A MA-173 (F) BOARD, COMPLETE (B) * A-7063-996-A MA-173 (O) BOARD, COMPLETE (UB) * A-7068-002-A MA-173 (N) BOARD, COMPLETE (NP) * A-7068-015-A MA-173 (I) BOARD, COMPLETE (AE) ***** (Ref. No 3, 000 series)			
1-751-605-11 CABLE, FLAT (FNF-6)			
< CAPACITOR >			
C001	1-163-009-11	CERAMIC CHIP 0.001uF 10% 50V	
C003	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C004	1-124-477-11	ELECT 47uF 20% 25V	
C005	1-163-101-00	CERAMIC CHIP 22PF 5% 50V	
C006	1-163-235-11	CERAMIC CHIP 22PF 5% 50V	
C007	1-163-229-11	CERAMIC CHIP 12PF 5% 50V	
C008	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C009	1-163-095-00	CERAMIC CHIP 12PF 5% 50V	
C010	1-163-095-00	CERAMIC CHIP 12PF 5% 50V	
C011	1-164-161-11	CERAMIC CHIP 0.0022uF 10% 100V	
C012	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C013	1-124-472-11	ELECT 470uF 20% 10V	
C014	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C016	1-124-471-00	ELECT 1000uF 20% 6.3V	
C018	1-126-157-11	ELECT 10uF 20% 16V	
C019	1-163-035-00	CERAMIC CHIP 0.047uF 50V	
C020	1-163-017-00	CERAMIC CHIP 0.0047uF 5% 50V	
C021	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C022	1-126-157-11	ELECT 10uF 20% 16V	
C023	1-124-471-00	ELECT 1000uF 20% 6.3V	
C024	1-163-035-00	CERAMIC CHIP 0.047uF 50V	
C025	1-125-507-11	CAP, DOUBLE LAYERS 0.22F	
C026	1-163-017-00	CERAMIC CHIP 0.0047uF 5% 50V	
C027	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C029	1-164-489-11	CERAMIC CHIP 0.22uF 10% 16V	
C030	1-163-037-11	CERAMIC CHIP 0.022uF 10% 25V	
C031	1-164-489-11	CERAMIC CHIP 0.22uF 10% 16V	
C032	1-163-037-11	CERAMIC CHIP 0.022uF 10% 25V	
C033	1-164-489-11	CERAMIC CHIP 0.22uF 10% 16V	
C034	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C035	1-162-587-11	CERAMIC CHIP 0.039uF 10% 25V	
C036	1-164-181-11	CERAMIC CHIP 0.0622uF 10% 100V	
C037	1-164-489-11	CERAMIC CHIP 0.22uF 10% 16V	
C038	1-164-489-11	CERAMIC CHIP 0.22uF 10% 16V	
C039	1-163-237-11	CERAMIC CHIP 27PF 5% 50V	
C040	1-124-257-00	ELECT 2.2uF 20% 50V	
C041	1-126-157-11	ELECT 10uF 20% 16V	
C042	1-163-035-00	CERAMIC CHIP 0.047uF 50V	
C043	1-163-031-11	CERAMIC CHIP 0.01uF 50V	

MA-173

Ref. No.	Part No.	Description	Remark
C044	1-163-036-00	CERAMIC CHIP	0.1uF 25V
C045	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C046	1-126-157-11	ELECT	10uF 20% 16V
C048	1-163-087-00	CERAMIC CHIP	4PF 50V
C049	1-163-809-11	CERAMIC CHIP	0.047uF 10% 25V
C050	1-126-157-11	ELECT	10uF 20% 16V
C051	1-163-239-11	CERAMIC CHIP	33PF 5% 50V
C052	1-163-037-11	CERAMIC CHIP	0.022uF 10% 25V
C053	1-126-157-11	ELECT	10uF 20% 16V
C054	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C055	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V
C056	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C057	1-163-011-11	CERAMIC CHIP	0.0015uF 10% 50V
C058	1-163-101-00	CERAMIC CHIP	22PF 5% 50V
C060	1-163-011-11	CERAMIC CHIP	0.0015uF 10% 50V
C061	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V
C062	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V
C063	1-163-101-00	CERAMIC CHIP	22PF 5% 50V
C064	1-163-011-11	CERAMIC CHIP	0.0015uF 10% 50V
C066	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C067	1-124-589-11	ELECT	47uF 20% 16V
C068	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C070	1-163-037-11	CERAMIC CHIP	0.022uF 10% 25V
C071	1-163-037-11	CERAMIC CHIP	0.022uF 10% 25V
C072	1-163-809-11	CERAMIC CHIP	0.047uF 10% 25V
C078	1-126-157-11	ELECT	10uF 20% 16V
C081	1-126-157-11	ELECT	10uF 20% 16V
C082	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V
C083	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V
C084	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V
C085	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C086	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C088	1-126-157-11	ELECT	10uF 20% 16V
C090	1-126-157-11	ELECT	10uF 20% 16V
C092	1-163-103-00	CERAMIC CHIP	27PF 5% 50V
C093	1-163-103-00	CERAMIC CHIP	27PF 5% 50V
C095	1-163-036-00	CERAMIC CHIP	0.1uF 25V
C096	1-163-036-00	CERAMIC CHIP	0.1uF 25V
C097	1-164-161-11	CERAMIC CHIP	0.0022uF 10% 100V
C098	1-164-161-11	CERAMIC CHIP	0.0022uF 10% 100V
C302	1-163-038-00	CERAMIC CHIP	0.1uF 25V
C303	1-163-035-00	CERAMIC CHIP	0.047uF 50V
C304	1-124-638-11	ELECT	22uF 20% 16V
C305	1-124-589-11	ELECT	47uF 20% 16V
C306	1-127-530-11	ELECT(SOLID)	22uF 20% 20V
C307	1-163-038-00	CERAMIC CHIP	0.1uF 25V
C308	1-163-257-11	CERAMIC CHIP	180PF 5% 50V
C309	1-163-038-00	CERAMIC CHIP	0.1uF 25V
C311	1-163-077-00	CERAMIC CHIP	0.1uF 10% 25V

Ref. No.	Part No.	Description	Remark
C312	1-163-077-00	CERAMIC CHIP	0.1uF 10% 25V
C313	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V
C314	1-124-589-11	ELECT	47uF 20% 16V
C315	1-163-036-00	CERAMIC CHIP	0.1uF 25V
C316	1-126-301-11	ELECT	1uF 20% 50V
C317	1-163-035-00	CERAMIC CHIP	0.047uF 50V
C318	1-163-101-00	CERAMIC CHIP	22PF 5% 50V
C319	1-163-101-00	CERAMIC CHIP	22PF 5% 50V
C322	1-163-101-00	CERAMIC CHIP	22PF 5% 50V
C323	1-163-101-00	CERAMIC CHIP	22PF 5% 50V
C324	1-163-019-00	CERAMIC CHIP	0.0068uF 10% 50V
C325	1-163-037-11	CERAMIC CHIP	0.022uF 10% 25V
C326	1-127-530-11	ELECT(SOLID)	22uF 20% 20V
C327	1-163-017-00	CERAMIC CHIP	0.0047uF 5% 50V
C328	1-164-336-11	CERAMIC CHIP	0.33uF 25V
C329	1-127-491-00	ELECT(SOLID)	22uF 20% 10V
C332	1-163-038-00	CERAMIC CHIP	0.1uF 25V
C333	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C334	1-163-019-00	CERAMIC CHIP	0.0068uF 10% 50V
C335	1-124-589-11	ELECT	47uF 20% 16V
C337	1-163-037-11	CERAMIC CHIP	0.022uF 10% 25V
C338	1-164-232-11	CERAMIC CHIP	0.01uF 50V
C339	1-163-017-00	CERAMIC CHIP	0.0047uF 5% 50V
C340	1-126-163-11	ELECT	4.7uF 20% 50V
C341	1-163-035-00	CERAMIC CHIP	0.047uF 50V
C342	1-164-107-11	CERAMIC CHIP	0.15uF 10% 16V
C343	1-164-232-11	CERAMIC CHIP	0.01uF 50V
C344	1-164-107-11	CERAMIC CHIP	0.15uF 10% 16V
C345	1-164-182-11	CERAMIC CHIP	0.0033uF 10% 50V
C346	1-164-330-21	CERAMIC CHIP	0.22uF 10% 16V
C347	1-164-182-11	CERAMIC CHIP	0.0033uF 10% 50V
C348	1-164-330-21	CERAMIC CHIP	0.22uF 10% 16V
C349	1-164-182-11	CERAMIC CHIP	0.0033uF 10% 50V
C350	1-164-330-21	CERAMIC CHIP	0.22uF 10% 16V
C351	1-163-035-00	CERAMIC CHIP	0.047uF 50V
C352	1-163-809-11	CERAMIC CHIP	0.047uF 10% 25V
C353	1-163-809-11	CERAMIC CHIP	0.047uF 10% 25V
C354	1-124-589-11	ELECT	47uF 20% 16V
C356	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C357	1-124-589-11	ELECT	47uF 20% 16V
C358	1-124-589-11	ELECT	47uF 20% 16V
C362	1-164-222-11	CERAMIC CHIP	0.22uF 25V
C363	1-163-036-00	CERAMIC CHIP	0.068uF 50V
C364	1-163-036-00	CERAMIC CHIP	0.068uF 50V
C365	1-163-036-00	CERAMIC CHIP	0.068uF 50V
C401	1-124-442-00	ELECT	330uF 20% 6.3V
C402	1-124-442-00	ELECT	330uF 20% 6.3V
C403	1-124-635-00	ELECT	220uF 20% 6.3V
C404	1-124-635-00	ELECT	220uF 20% 6.3V

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
C405	1-164-005-11	CERAMIC CHIP	0.47uF 25V	C527	1-163-017-00	CERAMIC CHIP	0.0047uF 5% 50V
C406	1-164-005-11	CERAMIC CHIP	0.47uF 25V	C528	1-163-017-00	CERAMIC CHIP	0.0047uF 5% 50V
C409	1-163-109-00	CERAMIC CHIP	47PF 5% 50V	C530	1-126-163-11	ELECT	4.7uF 20% 50V
C410	1-163-109-00	CERAMIC CHIP	47PF 5% 50V	C531	1-124-477-11	ELECT	47uF 20% 25V
C411	1-163-036-00	CERAMIC CHIP	0.1uF 25V	C532	1-126-163-11	ELECT	4.7uF 20% 50V
C412	1-163-036-00	CERAMIC CHIP	0.1uF 25V	C533	1-163-017-00	CERAMIC CHIP	0.0047uF 5% 50V
C415	1-163-036-00	CERAMIC CHIP	0.1uF 25V	C534	1-126-157-11	ELECT	10uF 20% 16V
C416	1-163-036-00	CERAMIC CHIP	0.1uF 25V	C535	1-124-257-00	ELECT	2.2uF 20% 50V
C423	1-126-157-11	ELECT	10uF 20% 16V	C536	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C424	1-126-157-11	ELECT	10uF 20% 16V	C537	1-126-157-11	ELECT	10uF 20% 16V
C425	1-164-005-11	CERAMIC CHIP	0.47uF 25V	C538	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C426	1-164-005-11	CERAMIC CHIP	0.47uF 25V	C539	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C427	1-124-477-11	ELECT	47uF 20% 25V	C540	1-126-157-11	ELECT	10uF 20% 16V
C428	1-163-036-00	CERAMIC CHIP	0.1uF 25V	C541	1-126-301-11	ELECT	1uF 20% 50V
C429	1-124-477-11	ELECT	47uF 20% 25V	C542	1-126-163-11	ELECT	4.7uF 20% 50V
C431	1-163-109-00	CERAMIC CHIP	47PF 5% 50V	C543	1-164-005-11	CERAMIC CHIP	0.47uF 25V
C432	1-163-109-00	CERAMIC CHIP	47PF 5% 50V	C544	1-164-005-11	CERAMIC CHIP	0.47uF 25V
C435	1-163-109-00	CERAMIC CHIP	47PF 5% 50V	C545	1-164-232-11	CERAMIC CHIP	0.01uF 50V
C436	1-163-109-00	CERAMIC CHIP	47PF 5% 50V	C546	1-163-809-11	CERAMIC CHIP	0.047uF 10% 25V
C437	1-126-157-11	ELECT	10uF 20% 16V	C547	1-163-003-11	CERAMIC CHIP	330PF 10% 50V
C438	1-126-157-11	ELECT	10uF 20% 16V	C548	1-126-301-11	ELECT	1uF 20% 50V
C443	1-163-036-00	CERAMIC CHIP	0.1uF 25V	C549	1-164-232-11	CERAMIC CHIP	0.01uF 50V
C447	1-163-036-00	CERAMIC CHIP	0.1uF 25V	C551	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C450	1-126-301-11	ELECT	1uF 20% 50V	C552	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C451	1-126-301-11	ELECT	1uF 20% 50V	C553	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C454	1-163-036-00	CERAMIC CHIP	0.1uF 25V	C554	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C455	1-163-036-00	CERAMIC CHIP	0.1uF 25V	C555	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C501	1-126-157-11	ELECT	10uF 20% 16V	C556	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C502	1-163-031-11	CERAMIC CHIP	0.01uF 50V	C557	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C503	1-124-257-00	ELECT	2.2uF 20% 50V	C558	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C504	1-126-157-11	ELECT	10uF 20% 16V	C559	1-163-019-00	CERAMIC CHIP	0.008uF 10% 50V
C505	1-126-163-11	ELECT	4.7uF 20% 50V	C561	1-164-232-11	CERAMIC CHIP	0.01uF 50V
C506	1-163-017-00	CERAMIC CHIP	0.0047uF 5% 50V	C562	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C507	1-124-477-11	ELECT	47uF 20% 25V	C563	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C508	1-126-163-11	ELECT	4.7uF 20% 50V	C564	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C509	1-163-017-00	CERAMIC CHIP	0.0047uF 5% 50V	C565	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C510	1-163-017-00	CERAMIC CHIP	0.0047uF 5% 50V	C566	1-163-036-00	CERAMIC CHIP	0.1uF 25V
C511	1-126-163-11	ELECT	4.7uF 20% 50V	C567	1-126-163-11	ELECT	4.7uF 20% 50V
C512	1-126-157-11	ELECT	10uF 20% 16V	C568	1-126-163-11	ELECT	4.7uF 20% 50V
C513	1-124-229-00	ELECT	33uF 20% 10V	C570	1-126-157-11	ELECT	10uF 20% 16V
C514	1-126-163-11	ELECT	4.7uF 20% 50V (NP, UB)	C571	1-124-292-00	ELECT	33uF 20% 5.3V
C515	1-124-477-11	ELECT	47uF 20% 25V	C572	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C516	1-126-163-11	ELECT	4.7uF 20% 50V	C573	1-163-036-00	CERAMIC CHIP	0.1uF 25V
C517	1-124-477-11	ELECT	47uF 20% 25V	C575	1-124-292-00	ELECT	33uF 20% 5.3V
C519	1-163-031-11	CERAMIC CHIP	0.01uF 50V	C576	1-126-157-11	ELECT	10uF 20% 16V
C520	1-126-163-11	ELECT	4.7uF 20% 50V	C582	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C522	1-163-031-11	CERAMIC CHIP	0.01uF 50V	C583	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C523	1-126-163-11	ELECT	4.7uF 20% 50V (NP, UB)	C584	1-126-157-11	ELECT	10uF 20% 16V
C525	1-126-163-11	ELECT	4.7uF 20% 50V				

MA-173

Ref. No.	Part No.	Description	Remark
C585	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C586	1-126-157-11	ELECT	10uF 20% 16V
C587	1-126-157-11	ELECT	10uF 20% 16V
C590	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V
C591	1-163-809-11	CERAMIC CHIP	0.047uF 10% 25V
C592	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V
C593	1-163-809-11	CERAMIC CHIP	0.047uF 10% 25V
C594	1-163-017-00	CERAMIC CHIP	0.0047uF 5% 50V
C651	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V
C652	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V
C653	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V
C654	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V
C655	1-164-182-11	CERAMIC CHIP	0.0033uF 10% 50V
C656	1-164-182-11	CERAMIC CHIP	0.0033uF 10% 50V
C657	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V
C658	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V
C701	1-124-638-11	ELECT	22uF 20% 10V
C702	1-124-638-11	ELECT	22uF 20% 10V
C703	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C704	1-124-638-11	ELECT	22uF 20% 10V
C705	1-124-638-11	ELECT	22uF 20% 10V
C706	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C708	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C710	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C711	1-124-638-11	ELECT	22uF 20% 10V
C713	1-124-638-11	ELECT	22uF 20% 10V
C724	1-164-181-11	CERAMIC CHIP	0.0022uF 10% 100V
C725	1-164-182-11	CERAMIC CHIP	0.0033uF 10% 50V
C726	1-163-011-11	CERAMIC CHIP	0.0015uF 10% 50V
C727	1-164-232-11	CERAMIC CHIP	0.01uF 50V
C728	1-126-157-11	ELECT	10uF 20% 16V
C729	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C730	1-124-443-00	ELECT	100uF 20% 10V
C741	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C742	1-126-154-11	ELECT	47uF 20% 6.3V
C746	1-124-257-00	ELECT	2.2uF 20% 50V
C748	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C749	1-124-477-11	ELECT	47uF 20% 25V
C750	1-126-177-11	ELECT	100uF 20% 10V
C751	1-124-638-11	ELECT	22uF 20% 10V
C752	1-163-237-11	CERAMIC CHIP	27PF 5% 50V
C753	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C755	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C756	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C757	1-126-154-11	ELECT	47uF 20% 6.3V
C760	1-164-005-11	CERAMIC CHIP	0.47uF 25V
C762	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C763	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C764	1-163-031-11	CERAMIC CHIP	0.01uF 50V

Ref. No.	Part No.	Description	Remark
C766	1-124-638-11	ELECT	22uF 20% 10V
C768	1-124-638-11	ELECT	22uF 20% 10V
C769	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C770	1-126-154-11	ELECT	47uF 20% 6.3V
C771	1-163-038-00	CERAMIC CHIP	0.1uF 25V
C772	1-126-154-11	ELECT	47uF 20% 6.3V
C773	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C774	1-163-031-11	CERAMIC CHIP	10PF 0.5PF 50V
C775	1-163-235-11	CERAMIC CHIP	22PF 5% 50V
C776	1-163-235-11	CERAMIC CHIP	22PF 5% 50V
C777	1-163-239-11	CERAMIC CHIP	33PF 5% 50V
C778	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V
C780	1-124-257-00	ELECT	2.2uF 20% 50V
C781	1-164-343-11	CERAMIC CHIP	0.056uF 10% 25V
C782	1-163-037-11	CERAMIC CHIP	0.022uF 10% 25V
C783	1-163-136-00	CERAMIC CHIP	820PF 5% 50V
C784	1-126-301-11	ELECT	1uF 20% 30V
C785	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C786	1-124-477-11	ELECT	47uF 20% 25V
C790	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C791	1-163-129-00	CERAMIC CHIP	330PF 5% 50V
C792	1-163-017-00	CERAMIC CHIP	0.0047uF 5% 50V
C793	1-163-003-11	CERAMIC CHIP	330PF 10% 50V
C794	1-163-003-11	CERAMIC CHIP	330PF 10% 50V
C801	1-124-638-11	ELECT	22uF 20% 10V
C802	1-124-638-11	ELECT	22uF 20% 10V
C803	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C805	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C806	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C807	1-124-443-00	ELECT	100uF 20% 10V
C808	1-124-477-11	ELECT	47uF 20% 25V
C809	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C810	1-126-157-11	ELECT	10uF 20% 16V
C811	1-124-638-11	ELECT	22uF 20% 10V
C812	1-124-443-00	ELECT	100uF 20% 10V
C813	1-126-157-11	ELECT	10uF 20% 16V
C814	1-124-638-11	ELECT	22uF 20% 10V
C815	1-124-443-00	ELECT	100uF 20% 10V
C816	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C817	1-163-038-00	CERAMIC CHIP	0.1uF 25V
C824	1-163-038-00	CERAMIC CHIP	0.1uF 25V
C830	1-163-117-00	CERAMIC CHIP	100PF 5% 50V
C831	1-163-117-00	CERAMIC CHIP	100PF 5% 50V
C832	1-163-038-00	CERAMIC CHIP	0.1uF 25V
C833	1-163-117-00	CERAMIC CHIP	100PF 5% 50V
C835	1-163-129-00	CERAMIC CHIP	330PF 5% 50V
C836	1-163-129-00	CERAMIC CHIP	330PF 5% 50V
C837	1-163-038-00	CERAMIC CHIP	0.1uF 25V
C838	1-163-129-00	CERAMIC CHIP	330PF 5% 50V

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
C850	1-163-117-00	CERAMIC CHIP	100PF 5% 50V	D006	8-719-210-39	DIODE	EC10QS-04
C851	1-163-117-00	CERAMIC CHIP	100PF 5% 50V	D007	8-719-801-78	DIODE	1SS184
C852	1-163-117-00	CERAMIC CHIP	100PF 5% 50V	D008	8-719-801-78	DIODE	1SS184
C853	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V	D010	8-719-801-78	DIODE	1SS184
C854	1-126-157-11	ELECT	10uF 20% 16V	D011	8-719-106-08	DIODE	RD6, 1M-B2
C856	1-126-154-11	ELECT	47uF 20% 6.3V	D012	8-719-801-78	DIODE	1SS184
C857	1-163-031-11	CERAMIC CHIP	0.01uF 50V	D016	8-719-210-38	DIODE	EC10QS-04
C859	1-163-031-11	CERAMIC CHIP	0.01uF 50V	D021	8-719-017-58	DIODE	M68068
C869	1-127-558-11	ELECT(SOLID)	10uF 20% 10V	D361	8-719-104-34	DIODE	1S2836
C970	1-124-589-11	ELECT	47uF 20% 15V	D302	8-719-106-44	DIODE	RD9, 1M-B2
C972	1-124-589-11	ELECT	47uF 20% 16V	D303	8-719-938-78	DIODE	S810-05PCP
C973	1-163-031-11	CERAMIC CHIP	0.01uF 50V	D304	8-719-938-75	DIODE	S805-05CP
C974	1-124-477-11	ELECT	47uF 20% 25V	D653	8-719-421-59	DIODE	MA3130WA-TX
C975	1-163-031-11	CERAMIC CHIP	0.01uF 50V	D654	8-719-421-59	DIODE	MA3130WA-TX
C976	1-124-477-11	ELECT	47uF 20% 25V	D655	8-719-421-59	DIODE	MA3130WA-TX
C977	1-163-031-11	CERAMIC CHIP	0.01uF 50V	D656	8-719-421-59	DIODE	MA3130WA-TX
C978	1-163-031-11	CERAMIC CHIP	0.01uF 50V	D657	8-719-106-43	DIODE	RD9, 1M-B1
< CONNECTOR >				D658	8-719-106-43	DIODE	RD9, 1M-B1
* CN001	1-691-059-21	HOUSING, CONNECTOR 27P		D701	8-719-801-78	DIODE	1SS184
* CN002	1-691-059-21	HOUSING, CONNECTOR 27P		D702	8-719-801-78	DIODE	1SS184
CN004	1-691-053-21	HOUSING, CONNECTOR 21P		D719	8-719-421-59	DIODE	MA3130WA-TX
CN005	1-569-341-11	CONNECTOR, BOARD TO BOARD 19P		D720	8-719-421-59	DIODE	MA3130WA-TX
CN006	1-573-842-11	CONNECTOR, BOARD TO BOARD 10P (VC)		D721	8-719-421-59	DIODE	MA3130WA-TX
CN008	1-691-057-21	HOUSING, CONNECTOR 25P		D722	8-719-421-59	DIODE	MA3130WA-TX
CN009	1-764-055-11	CONNECTOR, BOARD TO BOARD 40P		D723	8-719-421-59	DIODE	MA3130WA-TX
CN010	1-569-341-11	CONNECTOR, BOARD TO BOARD 19P		D724	8-719-421-59	DIODE	MA3130WA-TX
CN011	1-750-554-11	CONNECTOR, BOARD TO BOARD 19P		D730	8-719-106-43	DIODE	RD9, 1M-B1
* CN101	1-560-900-00	PIV, CONNECTOR 12P		D731	8-719-106-43	DIODE	RD9, 1M-B1
* CN102	1-580-897-00	PIV, CONNECTOR 9P		D732	8-719-106-43	DIODE	RD9, 1M-B1
CN103	1-691-057-21	HOUSING, CONNECTOR 25P		D734	8-719-106-43	DIODE	RD9, 1M-B1
CN104	1-569-340-11	CONNECTOR, BOARD TO BOARD 11P		D650	8-719-210-33	DIODE	EC10Q32
CN105	1-569-341-11	CONNECTOR, BOARD TO BOARD 19P		D651	8-719-801-78	DIODE	1SS184 (VC, NP, AE, UB)
CN106	1-569-341-11	CONNECTOR, BOARD TO BOARD 19P		D652	8-719-104-34	DIODE	1S2836 (VC, NP, AE, UB)
CN107	1-569-930-11	HOUSING, CONNECTOR 13P		< FERRITE BEAD >			
* CN301	1-564-001-11	PIV, CONNECTOR 2P		F8001	1-543-256-11	BEAD, FERRITE	
* CN302	1-563-373-11	SOCKET, CONNECTOR 25P		F8002	1-543-256-11	BEAD, FERRITE	
* CN303	1-564-004-11	PIV, CONNECTOR 5P		F8003	1-543-256-11	BEAD, FERRITE	
CN501	1-573-842-11	CONNECTOR, BOARD TO BOARD 10P		F8004	1-543-256-11	BEAD, FERRITE	
* CN502	1-691-072-11	HOUSING, CONNECTOR 13P		F8005	1-543-256-11	BEAD, FERRITE	
* CN501	1-691-059-21	HOUSING, CONNECTOR 27P		F8006	1-543-256-11	BEAD, FERRITE	
< DIODE >				F8008	1-414-234-11	INDUCTOR, FERRITE BEAD	
D001	8-719-801-78	DIODE	1SS184	F8009	1-216-295-00	METAL CHIP	0 5% 1/10W
D002	8-719-801-78	DIODE	1SS184	F8051	1-216-295-00	METAL CHIP	0 5% 1/10W
D003	8-719-210-38	DIODE	EC10QS-04	F8052	1-216-295-00	METAL CHIP	0 5% 1/10W
D004	8-719-210-38	DIODE	EC10QS-04	F8054	1-216-295-00	METAL CHIP	0 5% 1/10W
D005	8-719-801-78	DIODE	1SS184	F8055	1-414-235-11	INDUCTOR, FERRITE BEAD	
				F8801	1-216-295-00	METAL CHIP	0 5% 1/10W
				F8802	1-216-295-00	METAL CHIP	0 5% 1/10W

MA-173

Ref. No.	Part No.	Description	Remark
FB803	1-216-295-00	METAL CHIP	0 5% 1/10W
FB804	1-216-295-00	METAL CHIP	0 5% 1/10W
FB805	1-216-295-00	METAL CHIP	0 5% 1/10W
FB806	1-216-295-00	METAL CHIP	0 5% 1/10W
FB807	1-216-295-00	METAL CHIP	0 5% 1/10W
FB809	1-216-295-00	METAL CHIP	0 5% 1/10W
FB810	1-216-295-00	METAL CHIP	0 5% 1/10W
FB811	1-216-295-00	METAL CHIP	0 5% 1/10W
FB812	1-216-295-00	METAL CHIP	0 5% 1/10W
FB813	1-216-295-00	METAL CHIP	0 5% 1/10W
FB901	1-216-295-00	METAL CHIP	0 5% 1/10W
FB902	1-216-295-00	METAL CHIP	0 5% 1/10W
FB904	1-216-296-00	METAL CHIP	0 5% 1/8W
FB905	1-216-296-00	METAL CHIP	0 5% 1/10W

< FILTER >

FL501	1-236-837-21	FILTER, BAND PASS
FL502	1-236-838-21	FILTER, BAND PASS

< IC >

IC001	8-752-842-88	IC	CXP2004M
IC002	8-759-252-47	IC	M889956PF-G
IC003	8-752-847-34	IC	CXP87140-012Q
IC004	8-759-183-18	IC	CAT83C56K-LE10
IC005	8-759-998-02	IC	TL1596C06
IC006	8-759-998-92	IC	LM333D
IC007	8-759-998-98	IC	LM335D
IC009	8-759-070-98	IC	CXA1481AQ
IC010	8-759-635-27	IC	M62352GP
IC012	8-759-182-84	IC	PQ05S25U
IC301	8-759-182-89	IC	BA6218RFP-Y
IC302	8-759-945-17	IC	M83775PF
IC303	8-759-148-05	IC	CXA8010M
IC305	8-759-166-78	IC	CXA8006BM-ELL1000
IC306	8-759-055-62	IC	BA6440-T1
IC307	8-759-172-41	IC	L78N03T-TL
IC401	8-759-924-46	IC	BA4580F
IC402	8-759-300-71	IC	MD140538PF
IC403	8-759-924-46	IC	BA4580F
IC404	8-759-009-06	IC	MC14052BF
IC405	8-759-170-73	IC	TA78L12S
IC406	8-759-069-14	IC	MS1132L
IC407	8-759-009-06	IC	MC14052BF
IC408	8-759-924-46	IC	BA4580F
IC410	8-759-924-46	IC	BA4580F
IC411	8-759-909-71	IC	BA4580F
IC412	8-759-009-06	IC	MC14052BF
IC501	8-759-077-11	IC	CXA1542Q
IC501	8-759-169-76	IC	AN3886F8P-NS

Ref. No.	Part No.	Description	Remark
IC502	8-759-183-19	IC	AN3800NSC-E2
IC504	8-759-909-71	IC	BA4580F
IC701	8-752-052-58	IC	CXA1410M
IC703	8-759-164-18	IC	MM1118XFF
IC704	8-759-164-18	IC	MM1118XFF
IC705	8-759-252-46	IC	M890085PF
IC706	8-759-184-09	IC	LA7218M
IC707	8-759-182-16	IC	MM1195XFBF
IC950	8-759-182-84	IC	PQ05S25U
IC951	8-759-182-91	IC	PQ12T25U
IC952	8-759-182-86	IC	PQ05T25U

< JACK >

J801	1-537-821-11	TERMINAL BOARD (LINE IN 3/LINE OUT)
J802	1-507-678-00	JACK (CONTROL S IN)
J803	1-691-258-11	JACK (LANC)

< JUMPER RESISTOR >

JR001	1-414-235-11	INDUCTOR, FERRITE BEAD			
JR002	1-414-235-11	INDUCTOR, FERRITE BEAD			
JR003	1-216-049-00	METAL CHIP	1K	5%	1/10W
JR004	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
JR005	1-216-051-00	METAL CHIP	3.3K	5%	1/10W
JR006	1-216-049-00	METAL CHIP	1K	5%	1/10W
JR007	1-216-049-00	METAL CHIP	1K	5%	1/10W
JR008	1-216-049-00	METAL CHIP	1K	5%	1/10W
JR009	1-216-049-00	METAL CHIP	1K	5%	1/10W
JR010	1-216-049-00	METAL CHIP	1K	5%	1/10W
JR011	1-216-049-00	METAL CHIP	1K	5%	1/10W
JR012	1-216-049-00	METAL CHIP	1K	5%	1/10W
JR013	1-216-049-00	METAL CHIP	1K	5%	1/10W
JR014	1-216-295-00	METAL CHIP	0	5%	1/10W
JR015	1-216-295-00	METAL CHIP	0	5%	1/10W
JR016	1-216-049-00	METAL CHIP	1K	5%	1/10W
JR017	1-216-049-00	METAL CHIP	1K	5%	1/10W
JR018	1-216-049-00	METAL CHIP	1K	5%	1/10W
JR019	1-216-049-00	METAL CHIP	1K	5%	1/10W
JR020	1-216-049-00	METAL CHIP	1K	5%	1/10W
JR021	1-216-049-00	METAL CHIP	1K	5%	1/10W
JR022	1-216-049-00	METAL CHIP	1K	5%	1/10W
JR023	1-216-049-00	METAL CHIP	1K	5%	1/10W
JR024	1-216-049-00	METAL CHIP	1K	5%	1/10W
JR025	1-216-049-00	METAL CHIP	1K	5%	1/10W
JR026	1-216-049-00	METAL CHIP	1K	5%	1/10W
JR027	1-216-049-00	METAL CHIP	1K	5%	1/10W
JR028	1-216-295-00	METAL CHIP	0	5%	1/10W
JR029	1-216-049-00	METAL CHIP	1K	5%	1/10W
JR030	1-216-049-00	METAL CHIP	1K	5%	1/10W

Ref. No.	Part No.	Description	Remark			Ref. No.	Part No.	Description	Remark		
JR031	1-216-049-00	METAL CHIP	1K	5%	1/10W	JR080	1-216-049-00	METAL CHIP	1K	5%	1/10W
JR032	1-216-049-00	METAL CHIP	1K	5%	1/10W	JR083	1-216-049-00	METAL CHIP	1K	5%	1/10W
JR033	1-216-049-00	METAL CHIP	1K	5%	1/10W	JR085	1-410-997-31	INDUCTOR CHIP 2.2UH			
JR034	1-216-049-00	METAL CHIP	1K	5%	1/10W	JR086	1-216-033-00	METAL CHIP	220	5%	1/10W
JR035	1-216-049-00	METAL CHIP	1K	5%	1/10W	JR087	1-216-049-00	METAL CHIP	1K	5%	1/10W
JR036	1-216-049-00	METAL CHIP	1K	5%	1/10W	JR088	1-216-049-00	METAL CHIP	1K	5%	1/10W
JR037	1-216-049-00	METAL CHIP	1K	5%	1/10W	JR089	1-216-025-00	METAL CHIP	100	5% 1/10W	(VC, NP, AE, UB)
JR038	1-216-049-00	METAL CHIP	1K	5%	1/10W	JR089	1-216-041-00	METAL CHIP	470	5%	1/10W (B)
JR039	1-216-025-00	METAL CHIP	100	5%	1/10W	JR090	1-216-049-00	METAL CHIP	1K	5%	1/10W
JR040	1-216-049-00	METAL CHIP	1K	5%	1/10W	JR091	1-216-049-00	METAL CHIP	1K	5%	1/10W
JR041	1-216-073-00	METAL CHIP	10K	5%	1/10W	JR092	1-216-049-00	METAL CHIP	1K	5%	1/10W
JR042	1-216-025-00	METAL CHIP	100	5%	1/10W	JR093	1-216-049-00	METAL CHIP	1K	5%	1/10W
JR043	1-216-049-00	METAL CHIP	1K	5%	1/10W	JR094	1-216-073-00	METAL CHIP	10K	5%	1/10W
JR044	1-216-025-00	METAL CHIP	100	5%	1/10W	JR095	1-216-073-00	METAL CHIP	10K	5%	1/10W
JR045	1-216-049-00	METAL CHIP	1K	5%	1/10W	JR096	1-216-049-00	METAL CHIP	1K	5%	1/10W
JR046	1-216-049-00	METAL CHIP	1K	5%	1/10W	JR097	1-216-073-00	METAL CHIP	10K	5% 1/10W	(VC, NP, B)
JR047	1-216-049-00	METAL CHIP	1K	5%	1/10W	JR098	1-216-041-00	METAL CHIP	470	5% 1/10W	(VC, NP, B)
JR048	1-216-295-00	METAL CHIP	0	5%	1/10W	JR099	1-216-041-00	METAL CHIP	470	5% 1/10W	(VC, NP, B)
JR049	1-216-049-00	METAL CHIP	1K	5%	1/10W	JR100	1-216-041-00	METAL CHIP	470	5%	1/10W
JR050	1-216-049-00	METAL CHIP	1K	5%	1/10W	JR101	1-216-041-00	METAL CHIP	470	5%	1/10W
JR051	1-216-295-00	METAL CHIP	0	5%	1/10W	JR102	1-216-295-00	METAL CHIP	0	5%	1/10W
JR052	1-216-049-00	METAL CHIP	1K	5%	1/10W	JR104	1-216-295-00	METAL CHIP	0	5%	1/10W
JR053	1-216-295-00	METAL CHIP	0	5%	1/10W	JR105	1-216-295-00	METAL CHIP	0	5%	1/10W
JR054	1-410-997-31	INDUCTOR CHIP 2.2UH				JR110	1-216-049-00	METAL CHIP	1K	5%	1/10W
JR055	1-216-049-00	METAL CHIP	1K	5%	1/10W	JR111	1-216-049-00	METAL CHIP	1K	5%	1/10W
JR056	1-216-049-00	METAL CHIP	1K	5%	1/10W	JR112	1-216-049-00	METAL CHIP	1K	5%	1/10W
JR057	1-216-049-00	METAL CHIP	1K	5%	1/10W	JR113	1-216-049-00	METAL CHIP	1K	5%	1/10W
JR058	1-216-049-00	METAL CHIP	1K	5%	1/10W	JR114	1-216-049-00	METAL CHIP	1K	5%	1/10W
JR059	1-216-049-00	METAL CHIP	1K	5%	1/10W	JR115	1-216-049-00	METAL CHIP	1K	5%	1/10W
JR060	1-216-049-00	METAL CHIP	1K	5%	1/10W	JR117	1-216-049-00	METAL CHIP	1K	5%	1/10W
JR061	1-216-049-00	METAL CHIP	1K	5%	1/10W	JR118	1-216-295-00	METAL CHIP	0	5%	1/10W
JR062	1-216-049-00	METAL CHIP	1K	5%	1/10W	JR119	1-216-049-00	METAL CHIP	1K	5%	1/10W
JR063	1-216-049-00	METAL CHIP	1K	5%	1/10W	JR120	1-216-049-00	METAL CHIP	1K	5%	1/10W
JR064	1-216-049-00	METAL CHIP	1K	5%	1/10W	JR121	1-216-049-00	METAL CHIP	1K	5%	1/10W
JR065	1-216-049-00	METAL CHIP	1K	5%	1/10W	JR122	1-216-049-00	METAL CHIP	1K	5%	1/10W
JR066	1-216-049-00	METAL CHIP	1K	5%	1/10W	JR123	1-216-049-00	METAL CHIP	1K	5%	1/10W
JR067	1-216-049-00	METAL CHIP	1K	5%	1/10W	JR124	1-216-049-00	METAL CHIP	1K	5%	1/10W
JR068	1-216-049-00	METAL CHIP	1K	5%	1/10W	JR125	1-216-049-00	METAL CHIP	1K	5%	1/10W
JR069	1-216-049-00	METAL CHIP	1K	5%	1/10W	JR127	1-216-049-00	METAL CHIP	1K	5%	1/10W
JR070	1-216-049-00	METAL CHIP	1K	5%	1/10W	JR128	1-216-049-00	METAL CHIP	1K	5%	1/10W
JR071	1-216-049-00	METAL CHIP	1K	5%	1/10W	JR129	1-216-049-00	METAL CHIP	1K	5%	1/10W
JR072	1-216-049-00	METAL CHIP	1K	5%	1/10W	JR130	1-216-049-00	METAL CHIP	1K	5%	1/10W
JR073	1-216-049-00	METAL CHIP	1K	5%	1/10W	JR131	1-216-049-00	METAL CHIP	1K	5%	1/10W
JR074	1-216-049-00	METAL CHIP	1K	5%	1/10W	JR132	1-216-049-00	METAL CHIP	1K	5%	1/10W
JR075	1-216-073-00	METAL CHIP	10K	5%	1/10W	JR133	1-216-049-00	METAL CHIP	1K	5%	1/10W
JR076	1-216-049-00	METAL CHIP	1K	5%	1/10W	JR134	1-216-049-00	METAL CHIP	1K	5%	1/10W
JR077	1-216-049-00	METAL CHIP	1K	5%	1/10W	JR135	1-216-049-00	METAL CHIP	1K	5%	1/10W
JR078	1-216-049-00	METAL CHIP	1K	5%	1/10W	JR136	1-216-049-00	METAL CHIP	1K	5%	1/10W
JR079	1-216-049-00	METAL CHIP	1K	5%	1/10W	JR137	1-216-049-00	METAL CHIP	1K	5%	1/10W

Ref. No.	Part No.	Description	Remark
JR138	1-216-049-00	METAL CHIP	1K 5% 1/10W
JR139	1-216-049-00	METAL CHIP	1K 5% 1/10W
JR140	1-216-049-00	METAL CHIP	1K 5% 1/10W
JR141	1-216-097-00	METAL CHIP	100K 5% 1/10W
JR142	1-216-097-00	METAL CHIP	100K 5% 1/10W

JR154	1-216-295-00	METAL CHIP	0 5% 1/10W
JR155	1-216-295-00	METAL CHIP	0 5% 1/10W
JR157	1-216-295-00	METAL CHIP	0 5% 1/10W
JR158	1-216-295-00	METAL CHIP	0 5% 1/10W
JR160	1-216-295-00	METAL CHIP	0 5% 1/10W

JR162	1-216-295-00	METAL CHIP	0 5% 1/10W
JR163	1-216-295-00	METAL CHIP	0 5% 1/10W
JR164	1-216-295-00	METAL CHIP	0 5% 1/10W
JR165	1-216-049-00	METAL CHIP	1K 5% 1/10W
JR166	1-216-295-00	METAL CHIP	0 5% 1/10W

JR167	1-216-295-00	METAL CHIP	0 5% 1/10W
JR168	1-216-295-00	METAL CHIP	0 5% 1/10W
JR169	1-216-295-00	METAL CHIP	0 5% 1/10W
JR171	1-216-295-00	METAL CHIP	0 5% 1/10W
JR172	1-216-295-00	METAL CHIP	0 5% 1/10W

< COIL >

L001	1-408-982-11	INDUCTOR 100uH
L002	1-410-393-11	INDUCTOR CHIP 100uH
L003	1-408-978-21	INDUCTOR 47uH
L004	1-408-987-21	INDUCTOR 330uH
L005	1-408-978-21	INDUCTOR 47uH

L008	1-408-978-21	INDUCTOR 47uH
L301	1-408-978-21	INDUCTOR 47uH
L302	1-424-522-21	COIL, CHOKER 10uH
L304	1-424-524-21	COIL, CHOKER 47uH
L305	1-424-524-21	COIL, CHOKER 47uH

L306	1-408-972-21	INDUCTOR 47uH
L307	1-408-978-21	INDUCTOR 47uH
L503	1-408-982-11	INDUCTOR 100uH
L701	1-408-974-21	INDUCTOR 22uH
L704	1-408-978-21	INDUCTOR 47uH

L706	1-408-974-21	INDUCTOR 22uH
L708	1-408-974-21	INDUCTOR 22uH
L709	1-408-974-21	INDUCTOR 22uH
L710	1-408-974-21	INDUCTOR 22uH
L711	1-408-974-21	INDUCTOR 22uH

L712	1-408-962-21	INDUCTOR 2.2uH
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< IC LINK >

APS001	1-532-605-00	LINK, IC 0.4A (ICP-N10)
APS301	1-532-605-00	LINK, IC 0.4A (ICP-N10)

Ref. No.	Part No.	Description	Remark
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< TRANSISTOR >

Q001	8-729-420-12	TRANSISTOR	KN4213
Q003	8-729-421-19	TRANSISTOR	UN2213
Q004	8-729-424-08	TRANSISTOR	UN2111
Q005	8-729-421-19	TRANSISTOR	UN2213
Q007	8-729-420-12	TRANSISTOR	KN4213

Q008	8-729-807-87	TRANSISTOR	2SB1295-UL6
Q009	8-729-421-19	TRANSISTOR	UN2213
Q010	8-729-421-19	TRANSISTOR	UN2213
Q011	8-729-140-75	TRANSISTOR	2SD999-CLCK
Q012	8-729-140-75	TRANSISTOR	2SD999-CLCK

Q013	8-729-901-06	TRANSISTOR	DTA144EX
Q014	8-729-421-19	TRANSISTOR	UN2213
Q015	8-729-424-08	TRANSISTOR	UN2111
Q016	8-729-402-19	TRANSISTOR	KN6501
Q018	8-729-010-05	TRANSISTOR	MSB709-RT1

Q019	8-729-421-19	TRANSISTOR	UN2213
Q020	8-729-421-19	TRANSISTOR	UN2213
Q021	8-729-010-25	TRANSISTOR	MSD601-RT1
Q023	8-729-010-25	TRANSISTOR	MSD601-RT1
Q024	8-729-424-08	TRANSISTOR	UN2111

Q025	8-729-421-19	TRANSISTOR	UN2213
Q301	8-729-421-19	TRANSISTOR	UN2213
Q303	8-729-402-19	TRANSISTOR	KN6501
Q304	8-729-420-12	TRANSISTOR	KN4213
Q306	8-729-421-19	TRANSISTOR	UN2213

Q307	8-729-010-25	TRANSISTOR	MSD601-RT1
Q308	8-729-010-25	TRANSISTOR	MSD601-RT1
Q309	8-729-805-25	TRANSISTOR	2SB1121-S
Q310	8-729-805-25	TRANSISTOR	2SB1121-S
Q311	8-729-901-06	TRANSISTOR	DTA144EX

Q312	8-729-420-12	TRANSISTOR	KN4213
Q403	8-729-010-25	TRANSISTOR	MSD601-RT1
Q407	8-729-901-06	TRANSISTOR	DTA144EX
Q501	8-729-402-19	TRANSISTOR	KN6501
Q502	8-729-902-99	TRANSISTOR	DTC114TX

Q503	8-729-421-19	TRANSISTOR	UN2213
Q504	8-729-010-25	TRANSISTOR	MSD601-RT1
Q507	8-729-421-19	TRANSISTOR	UN2213
Q508	8-729-402-19	TRANSISTOR	KN6501
Q509	8-729-402-19	TRANSISTOR	KN6501

Q512	8-729-902-99	TRANSISTOR	DTC114TX
Q513	8-729-902-99	TRANSISTOR	DTC114TX
Q514	8-729-421-19	TRANSISTOR	UN2213
Q515	8-729-421-19	TRANSISTOR	UN2213
Q516	8-729-421-19	TRANSISTOR	UN2213

Q701	8-729-421-19	TRANSISTOR	UN2213
Q705	8-729-421-19	TRANSISTOR	UN2213

The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque Δ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.
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Ref. No.	Part No.	Description	Remark
Q706	8-729-010-05	TRANSISTOR MS8709-RT1	
Q707	8-729-010-25	TRANSISTOR MS8001-RT1	
Q713	8-729-402-81	TRANSISTOR XM4601	
Q715	8-729-402-81	TRANSISTOR XM4601	
Q716	8-729-421-19	TRANSISTOR UN2213	
Q717	8-729-421-19	TRANSISTOR UN2213	
Q719	8-729-010-25	TRANSISTOR MS8001-RT1	
Q720	8-729-402-84	TRANSISTOR XM4601	
Q721	8-729-402-84	TRANSISTOR XM4601	
Q730	8-729-402-84	TRANSISTOR XM4601	
Q732	8-729-402-84	TRANSISTOR XM4601	
Q733	8-729-402-84	TRANSISTOR XM4601	
Q755	8-729-010-05	TRANSISTOR MS8709-RT1	
Q756	8-729-421-19	TRANSISTOR UN2213	
< RESISTOR >			
R002	1-216-295-00	METAL CHIP (VC, NP, B)	0 5% 1/10W
R004	1-216-295-00	METAL CHIP (VC, NP, B)	0 5% 1/10W
R006	1-216-295-00	METAL CHIP (VC, NP, B)	0 5% 1/10W
R007	1-216-295-00	METAL CHIP	0 5% 1/10W
R008	1-216-295-00	METAL CHIP	0 5% 1/10W
R009	1-216-295-00	METAL CHIP	0 5% 1/10W
R012	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R013	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R014	1-216-295-00	METAL CHIP	0 5% 1/10W
R016	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R017	1-216-073-00	METAL CHIP	10K 5% 1/10W
R018	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R019	1-216-049-00	METAL CHIP	1K 5% 1/10W
R020	1-216-061-00	METAL CHIP	3.3K 5% 1/10W
R021	1-216-049-00	METAL CHIP	1K 5% 1/10W
R022	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R023	1-216-073-00	METAL CHIP	10K 5% 1/10W
R024	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R025	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R026	1-414-235-11	INDUCTOR, FERRITE BEAD	
R027	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R028	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R029	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R030	1-216-001-00	METAL CHIP	3.3K 5% 1/10W
R031	1-216-295-00	METAL CHIP	0 5% 1/10W
R032	1-216-295-00	METAL CHIP	0 5% 1/10W
R033	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R034	1-216-295-00	METAL CHIP	0 5% 1/10W (VC)
R034	1-216-033-00	METAL CHIP	220 5% 1/10W (NP)
R034	1-216-040-00	METAL GLAZE	430 5% 1/10W (AE)

Ref. No.	Part No.	Description	Remark
R034	1-216-045-00	METAL CHIP	750 5% 1/10W (UB)
R034	1-216-051-00	METAL CHIP	1.2K 5% 1/10W (B)
R035	1-216-049-00	METAL CHIP	1K 5% 1/10W (NP, AE, UB, B)
R036	1-216-065-00	METAL CHIP	4.7K 5% 1/10W
R037	1-216-065-00	METAL CHIP	4.7K 5% 1/10W
R038	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
R040	1-216-059-00	METAL CHIP	2.7K 5% 1/10W
R041	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
R042	1-216-059-00	METAL CHIP	2.7K 5% 1/10W
R043	1-216-065-00	METAL CHIP	4.7K 5% 1/10W
R044	1-216-061-00	METAL CHIP	22K 5% 1/10W
R045	1-216-065-00	METAL CHIP	4.7K 5% 1/10W
R046	1-247-855-11	CARBON	10K 5% 1/4W
R047	1-216-073-00	METAL CHIP	10K 5% 1/10W
R048	1-216-049-00	METAL CHIP	1K 5% 1/10W
R049	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R050	1-216-049-00	METAL CHIP	1K 5% 1/10W
R051	1-216-049-00	METAL CHIP	1K 5% 1/10W
R052	1-216-049-00	METAL CHIP	1K 5% 1/10W
R053	1-216-049-00	METAL CHIP	1K 5% 1/10W
R054	1-216-049-00	METAL CHIP	1K 5% 1/10W
R055	1-216-049-00	METAL CHIP	1K 5% 1/10W
R056	1-216-049-00	METAL CHIP	1K 5% 1/10W
R057	1-216-049-00	METAL CHIP	1K 5% 1/10W
R058	1-216-049-00	METAL CHIP	1K 5% 1/10W
R059	1-216-049-00	METAL CHIP	1K 5% 1/10W
R060	1-216-049-00	METAL CHIP	1K 5% 1/10W
R061	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R062	1-216-073-00	METAL CHIP	10K 5% 1/10W
R063	1-216-065-00	METAL CHIP	4.7K 5% 1/10W (VC, NP, B)
R064	1-216-065-00	METAL CHIP	4.7K 5% 1/10W (VC, NP, B)
R065	1-216-065-00	METAL CHIP	4.7K 5% 1/10W
R067	1-216-065-00	METAL CHIP	4.7K 5% 1/10W
R069	1-216-065-00	METAL CHIP	4.7K 5% 1/10W
R070	1-216-296-00	METAL CHIP	0 5% 1/8W
R071	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R073	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R074	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R075	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R076	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R077	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R078	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R079	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R080	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R081	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R082	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R083	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R084	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R085	1-216-073-00	METAL CHIP	10K 5% 1/10W

MA-173

Ref. No.	Part No.	Description	Remark
R086	1-216-073-00	METAL CHIP	10K 5% 1/10W
R087	1-216-295-00	METAL CHIP	0 5% 1/10W
R088	1-216-065-00	METAL CHIP	4.7K 5% 1/10W
R089	1-216-017-00	METAL CHIP	47 5% 1/10W
R090	1-216-113-00	METAL CHIP	470K 5% 1/10W
R092	1-216-051-00	METAL CHIP	1.2K 5% 1/10W
R093	1-216-073-00	METAL CHIP	10K 5% 1/10W
R095	1-216-073-00	METAL CHIP	10K 5% 1/10W
R097	1-216-097-00	METAL CHIP	100K 5% 1/10W
R099	1-216-073-00	METAL CHIP	10K 5% 1/10W
R101	1-216-085-00	METAL CHIP	33K 5% 1/10W
R102	1-216-073-00	METAL CHIP	10K 5% 1/10W
R103	1-216-081-00	METAL CHIP	22K 5% 1/10W
R105	1-216-146-00	METAL GLAZE	6.8 5% 1/8W
R107	1-216-121-00	METAL CHIP	1M 5% 1/10W
R109	1-216-048-00	METAL CHIP	1K 5% 1/10W
R110	1-216-098-00	METAL CHIP	120K 5% 1/10W
R111	1-216-073-00	METAL CHIP	10K 5% 1/10W
R112	1-216-121-00	METAL CHIP	1M 5% 1/10W
R113	1-216-129-00	METAL CHIP	2.2M 5% 1/10W
R114	1-216-067-00	METAL CHIP	5.6K 5% 1/10W
R115	1-216-105-00	METAL CHIP	220K 5% 1/10W
R116	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R117	1-216-093-00	METAL CHIP	68K 5% 1/10W
R118	1-216-109-00	METAL CHIP	330K 5% 1/10W
R120	1-216-688-11	METAL CHIP	39K 0.5% 1/10W
R121	1-216-079-00	METAL CHIP	18K 5% 1/10W
R122	1-216-065-00	METAL CHIP	4.7K 5% 1/10W
R123	1-216-073-00	METAL CHIP	10K 5% 1/10W
R124	1-216-097-00	METAL CHIP	100K 5% 1/10W
R125	1-216-879-11	METAL CHIP	15K 0.5% 1/10W
R126	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
R127	1-216-295-00	METAL CHIP	0 5% 1/10W
R128	1-216-069-00	METAL CHIP	6.8K 5% 1/10W
R131	1-216-097-00	METAL CHIP	100K 5% 1/10W
R132	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R133	1-216-073-00	METAL CHIP	10K 5% 1/10W
R134	1-216-097-00	METAL CHIP	100K 5% 1/10W
R136	1-216-073-00	METAL CHIP	10K 5% 1/10W
R137	1-216-049-00	METAL CHIP	1K 5% 1/10W
R138	1-216-074-00	METAL CHIP	11K 5% 1/10W
R140	1-216-121-00	METAL CHIP	1M 5% 1/10W
R141	1-216-098-00	METAL CHIP	120K 5% 1/10W
R142	1-216-661-11	METAL CHIP	2.7K 0.5% 1/10W
R143	1-216-049-00	METAL CHIP	1K 5% 1/10W
R144	1-216-073-00	METAL CHIP	10K 5% 1/10W
R145	1-216-113-00	METAL CHIP	470K 5% 1/10W
R146	1-216-097-00	METAL CHIP	100K 5% 1/10W
R147	1-216-099-00	METAL CHIP	120K 5% 1/10W

Ref. No.	Part No.	Description	Remark
R148	1-216-080-00	METAL CHIP	120K 5% 1/10W
R149	1-216-031-00	METAL CHIP	180 5% 1/10W
R150	1-216-069-00	METAL CHIP	8.8K 5% 1/10W
R151	1-216-037-00	METAL CHIP	330 5% 1/10W
R153	1-216-001-00	METAL CHIP	10 5% 1/10W
R156	1-216-073-00	METAL CHIP	10K 5% 1/10W
R157	1-216-069-00	METAL CHIP	6.8K 5% 1/10W
R158	1-216-037-00	METAL CHIP	330 5% 1/10W
R159	1-216-001-00	METAL CHIP	10 5% 1/10W
R161	1-216-081-00	METAL CHIP	22K 5% 1/10W
R162	1-216-085-00	METAL CHIP	33K 5% 1/10W
R163	1-216-295-00	METAL CHIP	0 5% 1/10W
R164	1-216-045-00	METAL CHIP	680 5% 1/10W
R165	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
R166	1-216-081-00	METAL CHIP	22K 5% 1/10W
R167	1-216-085-00	METAL CHIP	33K 5% 1/10W
R168	1-216-041-00	METAL CHIP	470 5% 1/10W
R169	1-216-041-00	METAL CHIP	470 5% 1/10W
R170	1-216-172-00	METAL CHIP	82 5% 1/8W
R171	1-414-235-11	INDUCTOR, FERRITE BEAD	
R172	1-216-295-00	METAL CHIP	0 5% 1/10W
R173	1-216-079-00	METAL CHIP	18K 5% 1/10W
R175	1-216-085-00	METAL CHIP	33K 5% 1/10W
R177	1-216-295-00	METAL CHIP	0 5% 1/10W (VC)
R178	1-216-295-00	METAL CHIP	0 5% 1/10W (VC)
R186	1-216-295-00	METAL CHIP	0 5% 1/10W
R190	1-216-295-00	METAL CHIP	0 5% 1/10W
R198	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R199	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R200	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R202	1-216-089-91	METAL GLAZE	47K 5% 1/10W (VC, NP, B)
R204	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R205	1-216-049-00	METAL CHIP	1K 5% 1/10W
R207	1-216-073-00	METAL CHIP	10K 5% 1/10W
R212	1-216-049-00	METAL CHIP	1K 5% 1/10W
R213	1-216-073-00	METAL CHIP	10K 5% 1/10W
R214	1-216-073-00	METAL CHIP	10K 5% 1/10W
R221	1-216-097-00	METAL CHIP	100K 5% 1/10W
R224	1-216-295-00	METAL CHIP	0 5% 1/10W
R234	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R303	1-216-097-00	METAL CHIP	100K 5% 1/10W
R304	1-216-097-00	METAL CHIP	100K 5% 1/10W
R306	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R308	1-216-097-00	METAL CHIP	100K 5% 1/10W
R309	1-216-067-00	METAL CHIP	5.6K 5% 1/10W
R312	1-216-069-00	METAL CHIP	6.8K 5% 1/10W
R314	1-216-121-00	METAL CHIP	1M 5% 1/10W
R317	1-216-055-00	METAL CHIP	1.8K 5% 1/10W
R318	1-216-055-00	METAL CHIP	1.8K 5% 1/10W

Ref. No.	Part No.	Description	Remark		
R319	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R320	1-216-013-00	METAL CHIP	33	5%	1/10W
R321	1-216-013-00	METAL CHIP	33	5%	1/10W
R322	1-216-013-00	METAL CHIP	33	5%	1/10W
R323	1-216-013-00	METAL CHIP	33	5%	1/10W
R324	1-216-033-00	METAL CHIP	220	5%	1/10W
R325	1-216-121-00	METAL CHIP	1M	5%	1/10W
R326	1-216-079-00	METAL CHIP	18K	5%	1/10W
R327	1-216-067-00	METAL CHIP	2.2K	5%	1/10W
R328	1-216-079-00	METAL CHIP	18K	5%	1/10W
R329	1-216-067-00	METAL CHIP	2.2K	5%	1/10W
R330	1-216-073-00	METAL CHIP	10K	5%	1/10W
R331	1-216-045-00	METAL CHIP	680	5%	1/10W
R332	1-216-045-00	METAL CHIP	680	5%	1/10W
R333	1-216-073-00	METAL CHIP	10K	5%	1/10W
R334	1-216-073-00	METAL CHIP	10K	5%	1/10W
R337	1-216-048-00	METAL CHIP	910	5%	1/10W
R338	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R339	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R340	1-216-077-00	METAL CHIP	15K	5%	1/10W
R343	1-216-073-00	METAL CHIP	10K	5%	1/10W
R345	1-216-073-00	METAL CHIP	10K	5%	1/10W
R347	1-216-093-00	METAL CHIP	68K	5%	1/10W
R348	1-216-097-00	METAL CHIP	100K	5%	1/10W
R349	1-216-754-11	METAL CHIP	120K	0.50%	1/10W
R350	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R352	1-216-093-00	METAL CHIP	68K	5%	1/10W
R354	1-216-073-00	METAL CHIP	10K	5%	1/10W
R356	1-216-679-11	METAL CHIP	15K	0.5%	1/10W
R357	1-216-093-00	METAL CHIP	68K	5%	1/10W
R359	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R361	1-216-085-00	METAL CHIP	33K	5%	1/10W
R363	1-219-107-91	METAL GLAZE	1.5	5%	1/8W
R364	1-219-107-91	METAL GLAZE	1.5	5%	1/8W
R366	1-216-037-00	METAL CHIP	330	5%	1/10W
R367	1-219-107-91	METAL GLAZE	1.5	5%	1/8W
R371	1-216-083-00	METAL CHIP	27K	5%	1/10W
R372	1-216-591-11	METAL CHIP	47K	0.5%	1/10W
R373	1-216-683-11	METAL CHIP	22K	0.5%	1/10W
R374	1-216-083-00	METAL CHIP	27K	5%	1/10W
R375	1-216-680-11	METAL CHIP	16K	0.5%	1/10W
R377	1-217-571-11	METAL CHIP	1	5%	1/10W
R378	1-216-583-11	METAL CHIP	22K	0.5%	1/10W
R379	1-217-571-11	METAL CHIP	1	5%	1/10W
R380	1-217-571-11	METAL CHIP	1	5%	1/10W
R381	1-216-083-00	METAL CHIP	27K	5%	1/10W
R382	1-217-571-11	METAL CHIP	1	5%	1/10W
R385	1-216-033-00	METAL CHIP	220	5%	1/10W
R386	1-216-033-00	METAL CHIP	220	5%	1/10W

Ref. No.	Part No.	Description	Remark		
R387	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R389	1-216-295-00	METAL CHIP	0	5%	1/10W
R391	1-216-295-00	METAL CHIP	0	5%	1/10W
R393	1-216-075-00	METAL CHIP	12K	5%	1/10W
R394	1-216-073-00	METAL CHIP	10K	5%	1/10W
R395	1-216-037-00	METAL CHIP	330	5%	1/10W
R396	1-216-295-00	METAL CHIP	0	5%	1/10W
R401	1-218-760-11	METAL GLAZE	220K	2%	1/10W
R402	1-218-760-11	METAL GLAZE	220K	2%	1/10W
R403	1-216-651-11	METAL CHIP	1K	0.5%	1/10W
R404	1-216-651-11	METAL CHIP	1K	0.5%	1/10W
R405	1-218-760-11	METAL GLAZE	220K	2%	1/10W
R406	1-218-760-11	METAL GLAZE	220K	2%	1/10W
R407	1-218-760-11	METAL GLAZE	220K	2%	1/10W
R408	1-218-760-11	METAL GLAZE	220K	2%	1/10W
R409	1-216-295-00	METAL CHIP	0	5%	1/10W
R413	1-216-591-11	METAL CHIP	47K	0.5%	1/10W
R414	1-218-691-11	METAL CHIP	47K	0.5%	1/10W
R415	1-216-683-11	METAL CHIP	22K	0.5%	1/10W
R416	1-216-683-11	METAL CHIP	22K	0.5%	1/10W
R417	1-216-683-11	METAL CHIP	22K	0.5%	1/10W
R418	1-216-683-11	METAL CHIP	22K	0.5%	1/10W
R419	1-216-681-11	METAL CHIP	47K	0.5%	1/10W
R420	1-216-681-11	METAL CHIP	47K	0.5%	1/10W
R421	1-216-295-00	METAL CHIP	0	5%	1/10W
R422	1-216-295-00	METAL CHIP	0	5%	1/10W
R425	1-216-097-00	METAL CHIP	100K	5%	1/10W
R425	1-216-097-00	METAL CHIP	100K	5%	1/10W
R429	1-216-295-00	METAL CHIP	0	5%	1/10W
R430	1-216-295-00	METAL CHIP	0	5%	1/10W
R437	1-216-675-11	METAL CHIP	10K	0.5%	1/10W
R438	1-216-675-11	METAL CHIP	10K	0.5%	1/10W
R439	1-216-073-00	METAL CHIP	10K	5%	1/10W
R440	1-216-073-00	METAL CHIP	10K	5%	1/10W
R441	1-216-675-11	METAL CHIP	10K	0.5%	1/10W
R442	1-216-675-11	METAL CHIP	10K	0.5%	1/10W
R443	1-216-685-11	METAL CHIP	27K	0.5%	1/10W
R444	1-216-685-11	METAL CHIP	27K	0.5%	1/10W
R445	1-216-685-11	METAL CHIP	27K	0.5%	1/10W
R446	1-216-685-11	METAL CHIP	27K	0.5%	1/10W
R447	1-216-627-11	METAL CHIP	100	0.5%	1/10W
R448	1-216-627-11	METAL CHIP	100	0.5%	1/10W
R449	1-216-675-11	METAL CHIP	10K	0.5%	1/10W
R450	1-216-675-11	METAL CHIP	10K	0.5%	1/10W
R451	1-216-295-00	METAL CHIP	0	5%	1/10W
R452	1-216-295-00	METAL CHIP	0	5%	1/10W
R459	1-216-683-11	METAL CHIP	22K	0.5%	1/10W
R460	1-216-683-11	METAL CHIP	22K	0.5%	1/10W
R463	1-216-627-11	METAL CHIP	100	0.5%	1/10W

MA-173

Ref. No.	Part No.	Description	Remark
R464	1-216-627-11	METAL CHIP	100 0.5% 1/10W
R465	1-216-077-00	METAL CHIP	15K 5% 1/10W
R466	1-216-077-00	METAL CHIP	15K 5% 1/10W
R468	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
R469	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R470	1-216-097-00	METAL CHIP	100K 5% 1/10W
R471	1-216-097-00	METAL CHIP	100K 5% 1/10W
R472	1-216-863-11	METAL CHIP	22K 0.5% 1/10W
R473	1-216-863-11	METAL CHIP	22K 0.5% 1/10W
R474	1-216-675-11	METAL CHIP	10K 0.5% 1/10W
R475	1-216-675-11	METAL CHIP	10K 0.5% 1/10W
R478	1-216-683-11	METAL CHIP	22K 0.5% 1/10W
R479	1-216-683-11	METAL CHIP	22K 0.5% 1/10W
R483	1-216-295-00	METAL CHIP	0 5% 1/10W
R484	1-216-295-00	METAL CHIP	0 5% 1/10W
R485	1-216-627-11	METAL CHIP	100 0.5% 1/10W
R486	1-216-627-11	METAL CHIP	100 0.5% 1/10W
R495	1-216-295-00	METAL CHIP	0 5% 1/10W
R501	1-216-073-00	METAL CHIP	10K 5% 1/10W
R502	1-216-073-00	METAL CHIP	10K 5% 1/10W
R503	1-216-067-00	METAL CHIP	5.6K 5% 1/10W
R504	1-216-295-00	METAL CHIP	0 5% 1/10W (VC, AE, B)
R505	1-216-295-00	METAL CHIP	0 5% 1/10W (NP, UB)
R506	1-216-083-00	METAL CHIP	27K 5% 1/10W
R507	1-216-073-00	METAL CHIP	10K 5% 1/10W
R508	1-216-121-00	METAL CHIP	1M 5% 1/10W
R509	1-216-075-00	METAL CHIP	12K 5% 1/10W
R510	1-216-085-00	METAL CHIP	33K 5% 1/10W (NP, UB)
R511	1-216-078-00	METAL CHIP	18K 5% 1/10W (NP, UB)
R512	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R513	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R515	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R516	1-216-295-00	METAL CHIP	0 5% 1/10W
R518	1-216-083-00	METAL CHIP	27K 5% 1/10W
R519	1-216-073-00	METAL CHIP	10K 5% 1/10W
R521	1-216-295-00	METAL CHIP	0 5% 1/10W
R524	1-216-295-00	METAL CHIP	0 5% 1/10W
R526	1-216-059-00	METAL CHIP	2.7K 5% 1/10W
R527	1-216-105-00	METAL CHIP	220K 5% 1/10W
R528	1-216-073-00	METAL CHIP	10K 5% 1/10W
R529	1-216-067-00	METAL CHIP	5.6K 5% 1/10W
R530	1-216-073-00	METAL CHIP	10K 5% 1/10W
R531	1-216-295-00	METAL CHIP	0 5% 1/10W
R532	1-216-077-00	METAL CHIP	15K 5% 1/10W
R533	1-216-089-00	METAL CHIP	6.8K 5% 1/10W
R534	1-216-295-00	METAL CHIP	0 5% 1/10W
R536	1-216-073-00	METAL CHIP	10K 5% 1/10W
R537	1-216-085-00	METAL CHIP	33K 5% 1/10W
R538	1-216-295-00	METAL CHIP	0 5% 1/10W

Ref. No.	Part No.	Description	Remark
R540	1-216-077-00	METAL CHIP	15K 5% 1/10W
R541	1-216-071-00	METAL CHIP	6.2K 5% 1/10W
R542	1-216-073-00	METAL CHIP	10K 5% 1/10W
R543	1-216-055-00	METAL CHIP	4.7K 5% 1/10W
R544	1-216-058-00	METAL CHIP	2.7K 5% 1/10W
R545	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
R546	1-216-081-00	METAL CHIP	22K 5% 1/10W
R547	1-216-078-00	METAL CHIP	18K 5% 1/10W
R548	1-216-061-00	METAL CHIP	3.3K 5% 1/10W
R549	1-216-053-00	METAL CHIP	1.5K 5% 1/10W
R550	1-216-051-00	METAL CHIP	3.3K 5% 1/10W
R551	1-216-073-00	METAL CHIP	10K 5% 1/10W
R552	1-216-073-00	METAL CHIP	10K 5% 1/10W
R553	1-216-041-00	METAL CHIP	470 5% 1/10W
R554	1-216-049-00	METAL CHIP	1K 5% 1/10W
R555	1-216-049-00	METAL CHIP	1K 5% 1/10W
R556	1-216-049-00	METAL CHIP	1K 5% 1/10W
R557	1-216-049-00	METAL CHIP	1K 5% 1/10W
R558	1-216-083-00	METAL CHIP	27K 5% 1/10W
R559	1-216-083-00	METAL CHIP	27K 5% 1/10W
R560	1-216-073-00	METAL CHIP	10K 5% 1/10W
R561	1-216-073-00	METAL CHIP	10K 5% 1/10W
R562	1-216-084-00	METAL CHIP	4.3K 5% 1/10W
R563	1-216-084-00	METAL CHIP	4.3K 5% 1/10W
R564	1-216-051-00	METAL CHIP	1.2K 5% 1/10W
R565	1-216-051-00	METAL CHIP	1.2K 5% 1/10W
R566	1-216-049-00	METAL CHIP	1K 5% 1/10W
R567	1-216-049-00	METAL CHIP	1K 5% 1/10W
R569	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R570	1-216-073-00	METAL CHIP	10K 5% 1/10W
R571	1-216-073-00	METAL CHIP	10K 5% 1/10W
R572	1-216-067-00	METAL CHIP	5.6K 5% 1/10W
R573	1-216-057-00	METAL CHIP	5.6K 5% 1/10W
R574	1-216-073-00	METAL CHIP	10K 5% 1/10W
R575	1-216-073-00	METAL CHIP	10K 5% 1/10W
R583	1-216-295-00	METAL CHIP	0 5% 1/10W
R586	1-216-295-00	METAL CHIP	0 5% 1/10W
R587	1-216-049-00	METAL CHIP	1K 5% 1/10W
R588	1-216-077-00	METAL CHIP	15K 5% 1/10W
R589	1-216-077-00	METAL CHIP	15K 5% 1/10W
R590	1-216-059-00	METAL CHIP	6.8K 5% 1/10W
R591	1-216-051-00	METAL CHIP	3.3K 5% 1/10W
R592	1-216-065-00	METAL CHIP	4.7K 5% 1/10W
R593	1-216-051-00	METAL CHIP	3.3K 5% 1/10W
R594	1-216-113-00	METAL CHIP	470K 5% 1/10W
R595	1-216-113-00	METAL CHIP	470K 5% 1/10W
R596	1-216-077-00	METAL CHIP	15K 5% 1/10W
R597	1-216-073-00	METAL CHIP	10K 5% 1/10W
R598	1-216-073-00	METAL CHIP	10K 5% 1/10W

Ref. No.	Part No.	Description	330	5%	1/10W	Remark
R651	1-216-037-00	METAL CHIP	330	5%	1/10W	
R652	1-216-037-00	METAL CHIP	330	5%	1/10W	
R654	1-216-037-00	METAL CHIP	330	5%	1/10W	
R655	1-216-037-00	METAL CHIP	330	5%	1/10W	
R656	1-216-235-00	METAL CHIP	0	5%	1/10W	
R659	1-216-235-00	METAL CHIP	0	5%	1/10W	
R661	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R662	1-216-635-11	METAL CHIP	220	0.5%	1/10W	
R663	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R664	1-216-635-11	METAL CHIP	220	0.5%	1/10W	
R703	1-216-235-00	METAL CHIP	0	5%	1/10W	
R704	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R705	1-216-235-00	METAL CHIP	0	5%	1/10W	
R706	1-216-235-00	METAL CHIP	0	5%	1/10W	
R710	1-216-041-00	METAL CHIP	470	5%	1/10W	
R712	1-216-043-00	METAL CHIP	560	5%	1/10W	
R722	1-216-235-00	METAL CHIP	0	5%	1/10W	
R725	1-216-041-00	METAL CHIP	470	5%	1/10W	
R726	1-216-121-00	METAL CHIP	1M	5%	1/10W	
R727	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R728	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R729	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R730	1-216-235-00	METAL CHIP	0	5%	1/10W	
R732	1-216-067-00	METAL CHIP	5.6K	5%	1/10W	
R739	1-216-067-00	METAL CHIP	2.2K	5%	1/10W	
R740	1-216-041-00	METAL CHIP	470	5%	1/10W	
R741	1-216-051-00	METAL CHIP	1.2K	5%	1/10W	
R748	1-216-105-00	METAL CHIP	220K	5%	1/10W	
R750	1-216-105-00	METAL CHIP	220K	5%	1/10W	
R751	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R752	1-216-043-00	METAL CHIP	560	5%	1/10W	
R753	1-216-637-11	METAL CHIP	270	0.5%	1/10W	
R754	1-216-640-11	METAL CHIP	360	0.5%	1/10W	
R755	1-216-017-00	METAL CHIP	47	5%	1/10W	
R756	1-216-045-00	METAL CHIP	680	5%	1/10W	
R757	1-216-055-00	METAL CHIP	1.8K	5%	1/10W	
R758	1-216-647-11	METAL CHIP	680	0.5%	1/10W	
R759	1-216-235-00	METAL CHIP	0	5%	1/10W	
R760	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R764	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R765	1-216-085-00	METAL CHIP	33K	5%	1/10W	
R766	1-216-075-00	METAL CHIP	12K	5%	1/10W	
R767	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R768	1-216-085-00	METAL CHIP	33K	5%	1/10W	
R769	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R771	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R772	1-216-085-00	METAL CHIP	33K	5%	1/10W	
R773	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R775	1-216-097-00	METAL CHIP	100K	5%	1/10W	

Ref. No.	Part No.	Description	0	5%	1/10W	Remark
R776	1-216-295-00	METAL CHIP	0	5%	1/10W	
R777	1-216-091-00	METAL CHIP	56K	5%	1/10W	
R778	1-216-091-00	METAL CHIP	56K	5%	1/10W	
R779	1-216-295-00	METAL CHIP	0	5%	1/10W	
R780	1-216-295-00	METAL CHIP	0	5%	1/10W	
R781	1-216-295-00	METAL CHIP	0	5%	1/10W	
R782	1-216-295-00	METAL CHIP	0	5%	1/10W	
R783	1-216-295-00	METAL CHIP	0	5%	1/10W	
R784	1-216-295-00	METAL CHIP	0	5%	1/10W	
R785	1-216-101-00	METAL CHIP	150K	5%	1/10W	
R786	1-216-043-00	METAL CHIP	560	5%	1/10W	
R787	1-216-063-00	METAL CHIP	3.9K	5%	1/10W	
R788	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R789	1-216-295-00	METAL CHIP	0	5%	1/10W	
R790	1-216-295-00	METAL CHIP	0	5%	1/10W	
R791	1-216-295-00	METAL CHIP	0	5%	1/10W	
R792	1-216-295-00	METAL CHIP	0	5%	1/10W	
R794	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R795	1-216-295-00	METAL CHIP	0	5%	1/10W	
R796	1-216-041-00	METAL CHIP	470	5%	1/10W	
R797	1-216-295-00	METAL CHIP	0	5%	1/10W	
R800	1-216-295-00	METAL CHIP	0	5%	1/10W	
R801	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R802	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R803	1-216-050-00	METAL GLAZE	1.1K	5%	1/10W	
R804	1-216-295-00	METAL CHIP	0	5%	1/10W	
R805	1-216-295-00	METAL CHIP	0	5%	1/10W	
R807	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R808	1-216-001-00	METAL CHIP	10	5%	1/10W	
R811	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R812	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R813	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R814	1-216-295-00	METAL CHIP	0	5%	1/10W	
R816	1-216-295-00	METAL CHIP	0	5%	1/10W	
R817	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R818	1-216-001-00	METAL CHIP	10	5%	1/10W	
R821	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R822	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R823	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R824	1-216-295-00	METAL CHIP	0	5%	1/10W	
R826	1-216-295-00	METAL CHIP	0	5%	1/10W	
R827	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R828	1-216-001-00	METAL CHIP	10	5%	1/10W	
R832	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R833	1-216-041-00	METAL CHIP	470	5%	1/10W	
R835	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R841	1-216-013-00	METAL CHIP	33	5%	1/10W	
R842	1-216-013-00	METAL CHIP	33	5%	1/10W	
R843	1-216-013-00	METAL CHIP	33	5%	1/10W	

Ref. No.	Part No.	Description	Remark
R844	1-216-295-00	METAL CHIP	0 5% 1/10W
R847	1-216-015-00	METAL CHIP	39 5% 1/10W
R848	1-216-295-00	METAL CHIP	0 5% 1/10W
R851	1-216-015-00	METAL CHIP	39 5% 1/10W
R853	1-216-295-00	METAL CHIP	0 5% 1/10W
R854	1-216-015-00	METAL CHIP	39 5% 1/10W
R855	1-216-295-00	METAL CHIP	0 5% 1/10W
R856	1-216-295-00	METAL CHIP	0 5% 1/10W
R857	1-216-295-00	METAL CHIP	0 5% 1/10W
R858	1-216-015-00	METAL CHIP	39 5% 1/10W
R859	1-216-015-00	METAL CHIP	39 5% 1/10W
R860	1-216-015-00	METAL CHIP	39 5% 1/10W
R862	1-216-015-00	METAL CHIP	39 5% 1/10W
R863	1-216-015-00	METAL CHIP	39 5% 1/10W
R864	1-216-015-00	METAL CHIP	39 5% 1/10W
R880	1-216-295-00	METAL CHIP	0 5% 1/10W
R884	1-216-049-00	METAL CHIP	1K 5% 1/10W
R885	1-216-049-00	METAL CHIP	1K 5% 1/10W
R886	1-216-295-00	METAL CHIP	0 5% 1/10W
R890	1-216-295-00	METAL CHIP	0 5% 1/10W
R891	1-216-295-00	METAL CHIP	0 5% 1/10W
R898	1-216-073-00	METAL CHIP	10K 5% 1/10W (B)
R899	1-216-105-00	METAL CHIP	220K 5% 1/10W
R959	1-216-073-00	METAL CHIP	10K 5% 1/10W
R960	1-216-295-00	METAL CHIP	0 5% 1/10W
R961	1-216-295-00	METAL CHIP	0 5% 1/10W
R962	1-216-295-00	METAL CHIP	0 5% 1/10W (VC, NP, UB, B)
R963	1-216-295-00	METAL CHIP	0 5% 1/10W (VC, NP, UB, B)
R964	1-216-295-00	METAL CHIP	0 5% 1/10W (VC, NP, UB, B)
R966	1-216-295-00	METAL CHIP	0 5% 1/10W
R967	1-216-295-00	METAL CHIP	0 5% 1/10W
R968	1-216-295-00	METAL CHIP	0 5% 1/10W
R969	1-216-295-00	METAL CHIP	0 5% 1/10W (VC)
R970	1-216-295-00	METAL CHIP	0 5% 1/10W
R971	1-216-295-00	METAL CHIP	0 5% 1/10W
R972	1-216-295-00	METAL CHIP	0 5% 1/10W
R973	1-216-295-00	METAL CHIP	0 5% 1/10W
R976	1-216-069-00	METAL CHIP	6.8K 5% 1/10W (VC, NP, UB, AE)
R986	1-216-295-00	METAL CHIP	0 5% 1/10W (VC, NP, UB, B)
R989	1-216-295-00	METAL CHIP	0 5% 1/10W
R990	1-216-295-00	METAL CHIP	0 5% 1/10W
R991	1-216-295-00	METAL CHIP	0 5% 1/10W
R992	1-216-295-00	METAL CHIP	0 5% 1/10W
R993	1-216-295-00	METAL CHIP	0 5% 1/10W
R994	1-216-295-00	METAL CHIP	0 5% 1/10W
R995	1-216-295-00	METAL CHIP	0 5% 1/10W
R998	1-216-295-00	METAL CHIP	0 5% 1/10W
R999	1-216-295-00	METAL CHIP	0 5% 1/10W

Ref. No.	Part No.	Description	Remark
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< MODULATOR >

△RFU801 1-469-328-11 MODULATOR, RF (RFU-2017) (VC, NP, AE)
 △RFU801 1-469-328-51 MODULATOR, RF (RFU-2041) (B)
 △RFU801 1-469-347-11 MODULATOR, RF (RFU-2024) (UB)

< VARIABLE RESISTOR >

RV301 1-238-855-11 RES, ADJ, CERMET 4.7K
 RV501 1-238-857-11 RES, ADJ, CERMET 22K
 RV502 1-238-857-11 RES, ADJ, CERMET 22K

< THERMISTOR >

TH001 1-806-290-60 THERMISTOR S-3K

< VIBRATOR >

X001 1-579-368-31 VIBRATOR, CRYSTAL (11.75MHz)
 X002 1-577-116-21 OSCILLATOR, CRYSTAL (16MHz)
 X003 1-578-126-11 VIBRATOR, CERAMIC (12MHz)
 X004 1-567-098-31 VIBRATOR, CRYSTAL (32KHz)
 X701 1-577-288-11 VIBRATOR, CRYSTAL (17.7MHz)

X702 1-577-165-11 VIBRATOR, CERAMIC (500kHz)

* 1-848-300-11 MD-59 BOARD, COMPLETE

(Ref. No 4, 000 series)

1-750-620-11 CONNECTOR (09B MD)
 3-953-985-01 HOLDER, ST SENSOR
 3-954-638-01 HOLDER (S), PUSH SWITCH
 3-954-639-01 HOLDER (T), PUSH SWITCH
 3-958-218-01 SHEET, INSULATING

< CONNECTOR >

CN001 1-569-341-11 CONNECTOR, BOARD TO BOARD 19P

< DIODE >

D001 8-719-980-42 DIODE GL453S
 D002 8-719-106-79 DIODE RD13M-B1
 D003 8-719-106-23 DIODE RD7. SM-B2
 D004 8-719-106-23 DIODE RD7. SM-B2
 D005 8-719-106-23 DIODE RD7. SM-B2

< HALL ELEMENT >

H001 1-808-118-11 ELEMENT, HALL HW-300A
 H002 1-808-118-11 ELEMENT, HALL HW-300A

< JUMPER RESISTOR >

JR001 1-216-296-00 METAL CHIP 0 5% 1/8W
 JR002 1-216-296-00 METAL CHIP 0 5% 1/8W

The components identified by
 mark △ or dotted line with
 mark △ are critical for
 safety. Replace only with
 part number specified.

Les composants identifiés
 par une marque △ sont
 critiques pour la sécurité.
 Ne les remplacer que par une pièce
 portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark
JR003	1-216-236-00	METAL CHIP 0 5% 1/8W	
< PHOTO TRANSISTOR >			
PT001	8-729-907-25	TRANSISTOR PT4850F	
PT002	8-729-907-25	TRANSISTOR PT4850F	
< RESISTOR >			
R001	1-216-190-00	METAL GLAZE 470 5% 1/8W	
R002	1-216-190-00	METAL GLAZE 470 5% 1/8W	
R003	1-216-190-00	METAL GLAZE 470 5% 1/8W	
R004	1-216-190-00	METAL GLAZE 470 5% 1/8W	
R005	1-216-236-00	METAL CHIP 0 5% 1/8W	
< SWITCH >			
S001	1-692-497-11	SWITCH, PUSH (TAPE 2/9)	
S002	1-692-497-11	SWITCH, PUSH (TAPE 16/13)	
S003	1-692-497-11	SWITCH, PUSH (ME/MP)	
S004	1-692-497-11	SWITCH, PUSH (H18 MP)	
S005	1-692-497-11	SWITCH, PUSH (REC PROOF)	
S006	1-570-953-11	SWITCH, PUSH (1 KEY) (CC DOWN)	

* A-7063-930-A PC-61 (G) BOARD, COMPLETE			

(Ref. No. 4,000 series)			
< CAPACITOR >			
C601	1-124-442-00	ELECT 330uF 20% 6.3V	
C602	1-124-442-00	ELECT 330uF 20% 6.3V	
C603	1-124-126-00	ELECT 47uF 20% 10V	
C604	1-124-126-00	ELECT 47uF 20% 10V	
C605	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C606	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C633	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C634	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C635	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C636	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C640	1-126-233-11	ELECT 22uF 20% 50V	
C642	1-124-126-00	ELECT 47uF 20% 10V	
C643	1-163-009-11	CERAMIC CHIP 0.001uF 10% 50V	
C644	1-163-101-00	CERAMIC CHIP 22PF 5% 50V	
C645	1-163-124-00	CERAMIC CHIP 200PF 5% 50V	
C646	1-124-925-11	ELECT 2.2uF 20% 100V	
C047	1-124-464-11	ELECT 0.22uF 20% 50V	
C648	1-131-377-00	TANTALUM 10uF 10% 16V	
C649	1-164-161-11	CERAMIC CHIP 0.0022uF 10% 160V	
C650	1-124-927-11	ELECT 4.7uF 20% 100V	
C651	1-124-126-00	ELECT 47uF 20% 10V	
C654	1-126-233-11	ELECT 22uF 20% 50V	

Ref. No.	Part No.	Description	Remark
C657	1-124-126-00	ELECT 47uF 20% 10V	
C658	1-163-009-11	CERAMIC CHIP 0.001uF 10% 50V	
C659	1-163-101-00	CERAMIC CHIP 22PF 5% 50V	
C660	1-163-124-00	CERAMIC CHIP 200PF 5% 50V	
C661	1-124-925-11	ELECT 2.2uF 20% 100V	
C662	1-124-464-11	ELECT 0.22uF 20% 50V	
C663	1-131-377-00	TANTALUM 10uF 10% 16V	
C664	1-164-161-11	CERAMIC CHIP 0.0022uF 10% 160V	
C665	1-124-927-11	ELECT 4.7uF 20% 100V	
C666	1-124-126-00	ELECT 47uF 20% 10V	
C671	1-163-125-00	CERAMIC CHIP 220PF 5% 50V	
C672	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C702	1-126-233-11	ELECT 22uF 20% 50V	
C703	1-126-233-11	ELECT 22uF 20% 50V	
C705	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	
C706	1-124-538-11	ELECT 22uF 20% 10V	
C707	1-124-638-11	ELECT 22uF 20% 10V	
C708	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C714	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	
C715	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C716	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C717	1-124-638-11	ELECT 22uF 20% 10V	
C718	1-126-233-11	ELECT 22uF 20% 50V	
C719	1-126-233-11	ELECT 22uF 20% 50V	
C731	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C733	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C734	1-163-017-00	CERAMIC CHIP 0.0047uF 5% 50V	
C735	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C736	1-124-638-11	ELECT 22uF 20% 10V	
C737	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C738	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C739	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C740	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C741	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C742	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C743	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C744	1-163-033-00	CERAMIC CHIP 10PF 5% 50V	
C745	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C746	1-163-109-00	CERAMIC CHIP 47PF 5% 50V	
C747	1-163-115-00	CERAMIC CHIP 82PF 5% 50V	
C748	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C749	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C750	1-124-638-11	ELECT 22uF 20% 10V	
C752	1-126-157-11	ELECT 10uF 20% 16V	
C755	1-163-035-00	CERAMIC CHIP 0.047uF 50V	
C756	1-163-035-00	CERAMIC CHIP 0.047uF 50V	
C757	1-124-499-11	ELECT, NONPOLAR 1uF 20% 50V	
C758	1-163-141-00	CERAMIC CHIP 0.001uF 5% 50V	
C759	1-163-227-11	CERAMIC CHIP 10PF 0.5PF 50V	

Ref. No.	Part No.	Description	Remark
C760	1-163-091-00	CERAMIC CHIP	8PF 50V
C761	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V
C762	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V
C763	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V
C764	1-163-017-00	CERAMIC CHIP	0.0047uF 5% 50V
C765	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V
C766	1-163-137-00	CERAMIC CHIP	680PF 5% 50V
C768	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V
C769	1-126-177-11	ELECT	100uF 20% 10V
C771	1-126-154-11	ELECT	47uF 20% 6.3V
C772	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V
C773	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V
C774	1-163-017-00	CERAMIC CHIP	0.0047uF 5% 50V
C776	1-163-031-11	CERAMIC CHIP	0.01uF 50V
< CONNECTOR >			
CN601	1-573-824-11	CONNECTOR, BOARD TO BOARD 10P	
CN701	1-764-054-11	CONNECTOR, BOARD TO BOARD 40P	
CN702	1-506-484-11	PIR, CONNECTOR 5P	
* CN703	1-564-013-11	PIR, CONNECTOR 3P	
< VARIABLE CAPACITOR >			
CV701	1-141-227-00	CAP, TRIMMER 20PF	
< DIODE >			
D702	8-719-409-16	DIODE 1A152WK	
D703	8-713-300-88	DIODE 1T33C-01	
< FERRITE BEAD >			
FB701	1-543-258-11	BEAD, FERRITE	
< FILTER >			
FL601	1-236-043-11	FILTER, LOW PASS	
FL602	1-236-043-11	FILTER, LOW PASS	
< IC >			
IC601	8-759-300-71	IC HD140538EP	
IC602	8-759-300-71	IC HD140538EP	
IC603	8-759-924-46	IC BA4560F	
IC610	8-759-009-06	IC MC140528P	
IC614	8-759-822-92	IC LA7451M	
IC701	8-752-322-57	IC CXD1077M	
IC703	8-752-332-46	IC CXD1208Q	
IC704	8-759-009-51	IC MC146388P	
IC705	8-759-507-53	IC MS8264CLL-15FC	
IC707	8-759-067-53	IC CXD2120Q	
IC708	8-752-010-20	IC CXD0102	
IC709	8-759-908-15	IC TL431CLP	

Ref. No.	Part No.	Description	Remark
< COIL >			
L704	1-408-082-11	INDUCTOR 100uH	
L705	1-408-082-11	INDUCTOR 100uH	
L706	1-408-970-21	INDUCTOR 10uH	
L707	1-408-958-21	INDUCTOR 1uH	
L708	1-412-006-31	INDUCTOR CHIP 10uH	
L753	1-216-295-00	METAL CHIP 0 5% 1/10W	
L754	1-216-295-00	METAL CHIP 0 5% 1/10W	
L757	1-216-295-00	METAL CHIP 0 5% 1/10W	
L758	1-216-295-00	METAL CHIP 0 5% 1/10W	
L759	1-216-295-00	METAL CHIP 0 5% 1/10W	
L760	1-216-295-00	METAL CHIP 0 5% 1/10W	
L761	1-216-295-00	METAL CHIP 0 5% 1/10W	
L762	1-216-295-00	METAL CHIP 0 5% 1/10W	
L763	1-216-295-00	METAL CHIP 0 5% 1/10W	
L764	1-216-295-00	METAL CHIP 0 5% 1/10W	
L766	1-216-295-00	METAL CHIP 0 5% 1/10W	
L767	1-216-295-00	METAL CHIP 0 5% 1/10W	
L774	1-216-295-00	METAL CHIP 0 5% 1/10W	
L775	1-216-295-00	METAL CHIP 0 5% 1/10W	
L776	1-216-295-00	METAL CHIP 0 5% 1/10W	
L777	1-216-295-00	METAL CHIP 0 5% 1/10W	
L778	1-216-295-00	METAL CHIP 0 5% 1/10W	
L779	1-216-295-00	METAL CHIP 0 5% 1/10W	
L780	1-216-295-00	METAL CHIP 0 5% 1/10W	
L781	1-216-295-00	METAL CHIP 0 5% 1/10W	
L784	1-216-295-00	METAL CHIP 0 5% 1/10W	
L785	1-216-295-00	METAL CHIP 0 5% 1/10W	
L786	1-216-295-00	METAL CHIP 0 5% 1/10W	
< TRANSISTOR >			
Q703	8-729-002-19	TRANSISTOR XN6501	
Q704	8-729-421-19	TRANSISTOR UN2213	
Q705	8-729-002-19	TRANSISTOR XN6501	
Q706	8-729-010-25	TRANSISTOR MS8601-RT1	
Q708	8-729-001-06	TRANSISTOR DT1444K	
Q711	8-729-421-19	TRANSISTOR UN2213	
< RESISTOR >			
R601	1-216-679-11	METAL CHIP 15K 0.5% 1/10W	
R602	1-216-679-11	METAL CHIP 15K 0.5% 1/10W	
R603	1-216-675-11	METAL CHIP 10K 0.5% 1/10W	
R604	1-216-675-11	METAL CHIP 10K 0.5% 1/10W	
R605	1-216-675-11	METAL CHIP 10K 0.5% 1/10W	
R606	1-216-675-11	METAL CHIP 10K 0.5% 1/10W	
R607	1-216-683-11	METAL CHIP 22K 0.5% 1/10W	
R608	1-216-683-11	METAL CHIP 22K 0.5% 1/10W	
R609	1-216-651-11	METAL CHIP 1K 0.5% 1/10W	

Ref. No.	Part No.	Description	Remark
R610	1-216-651-11	METAL CHIP	1K 0.5% 1/10W
R611	1-216-651-11	METAL CHIP	1K 0.5% 1/10W
R612	1-216-651-11	METAL CHIP	1K 0.5% 1/10W
R639	1-216-295-00	METAL CHIP	0 5% 1/10W
R641	1-216-603-11	METAL CHIP	3.3K 0.5% 1/10W
R642	1-216-603-11	METAL CHIP	3.3K 0.5% 1/10W
R645	1-216-605-11	METAL CHIP	3.9K 0.5% 1/10W
R646	1-216-605-11	METAL CHIP	3.9K 0.5% 1/10W
R647	1-216-678-11	METAL CHIP	13K 0.5% 1/10W
R648	1-216-678-11	METAL CHIP	13K 0.5% 1/10W
R651	1-216-754-11	METAL GLAZE	120K 2% 1/10W
R655	1-216-651-11	METAL CHIP	1K 0.5% 1/10W
R656	1-216-651-11	METAL CHIP	1K 0.5% 1/10W
R657	1-216-675-11	METAL CHIP	10K 0.5% 1/10W
R658	1-216-675-11	METAL CHIP	10K 0.5% 1/10W
R659	1-216-687-11	METAL CHIP	33K 0.5% 1/10W
R660	1-216-687-11	METAL CHIP	33K 0.5% 1/10W
R661	1-216-675-11	METAL CHIP	10K 0.5% 1/10W
R662	1-216-675-11	METAL CHIP	10K 0.5% 1/10W
R663	1-216-675-11	METAL CHIP	10K 0.5% 1/10W
R664	1-216-675-11	METAL CHIP	10K 0.5% 1/10W
R665	1-216-627-11	METAL CHIP	100 0.5% 1/10W
R666	1-216-627-11	METAL CHIP	100 0.5% 1/10W
R701	1-216-028-00	METAL CHIP	150 5% 1/10W
R702	1-216-653-11	METAL CHIP	1.2K 0.5% 1/10W
R703	1-216-661-11	METAL CHIP	2.7K 0.5% 1/10W
R704	1-216-022-00	METAL CHIP	75 5% 1/10W
R705	1-216-039-00	METAL CHIP	390 5% 1/10W
R706	1-216-651-11	METAL CHIP	1K 0.5% 1/10W
R707	1-216-077-00	METAL CHIP	15K 5% 1/10W
R708	1-216-688-11	METAL CHIP	39K 0.5% 1/10W
R712	1-216-077-00	METAL CHIP	15K 5% 1/10W
R713	1-216-688-11	METAL CHIP	39K 0.5% 1/10W
R717	1-216-117-00	METAL CHIP	680K 5% 1/10W
R718	1-216-105-00	METAL CHIP	220K 5% 1/10W
R720	1-216-073-00	METAL CHIP	10K 5% 1/10W
R721	1-216-101-00	METAL CHIP	150K 5% 1/10W
R723	1-216-097-00	METAL CHIP	100K 5% 1/10W
R726	1-216-073-00	METAL CHIP	10K 5% 1/10W
R727	1-216-651-11	METAL CHIP	1K 0.5% 1/10W
R729	1-216-295-00	METAL CHIP	0 5% 1/10W
R738	1-216-017-00	METAL CHIP	47 5% 1/10W
R739	1-216-646-11	METAL CHIP	560 0.5% 1/10W
R740	1-216-051-00	METAL CHIP	1.2K 5% 1/10W
R743	1-216-073-00	METAL CHIP	10K 5% 1/10W
R746	1-216-651-11	METAL CHIP	1K 0.5% 1/10W
R747	1-216-073-00	METAL CHIP	10K 5% 1/10W
R748	1-216-073-00	METAL CHIP	10K 5% 1/10W
R749	1-216-651-11	METAL CHIP	1K 0.5% 1/10W

Ref. No.	Part No.	Description	Remark
R750	1-216-073-00	METAL CHIP	10K 5% 1/10W
R751	1-216-651-11	METAL CHIP	1K 0.5% 1/10W
R752	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
R753	1-216-081-00	METAL CHIP	22K 5% 1/10W
R754	1-216-073-00	METAL CHIP	10K 5% 1/10W
R755	1-216-651-11	METAL CHIP	1K 0.5% 1/10W
R756	1-216-627-11	METAL CHIP	100 0.5% 1/10W
R757	1-216-037-00	METAL CHIP	330 5% 1/10W
R758	1-216-028-00	METAL CHIP	150 5% 1/10W
R759	1-216-045-00	METAL CHIP	680 5% 1/10W
R760	1-216-651-11	METAL CHIP	1K 0.5% 1/10W
R761	1-216-077-00	METAL CHIP	15K 5% 1/10W
R762	1-216-651-11	METAL CHIP	1K 0.5% 1/10W
R763	1-216-651-11	METAL CHIP	1K 0.5% 1/10W
R764	1-216-651-11	METAL CHIP	1K 0.5% 1/10W
R767	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
R772	1-216-097-00	METAL CHIP	100K 5% 1/10W
R777	1-216-295-00	METAL CHIP	0 5% 1/10W
R778	1-216-295-00	METAL CHIP	0 5% 1/10W
R780	1-216-045-00	METAL CHIP	680 5% 1/10W
R789	1-216-105-00	METAL CHIP	220K 5% 1/10W
R790	1-216-687-11	METAL CHIP	33K 0.5% 1/10W
R791	1-216-687-11	METAL CHIP	33K 0.5% 1/10W
R794	1-216-057-00	METAL CHIP	100K 5% 1/10W
R797	1-216-057-00	METAL CHIP	100K 5% 1/10W
R798	1-216-065-00	METAL CHIP	4.7K 5% 1/10W
R799	1-216-029-00	METAL CHIP	150 5% 1/10W
< VARIABLE RESISTOR >			
RV701	1-238-857-11	RES. ADJ. CERMET 22K	
RV702	1-238-857-11	RES. ADJ. CERMET 22K	
RV703	1-238-861-11	RES. ADJ. CERMET 470K	
RV705	1-238-861-11	RES. ADJ. CERMET 470K	

Ref. No.	Part No.	Description	Remark
*	A-7063-939-A	PS-316 (G) BOARD, COMPLETE ***** (Ref. No. 8, 000 series)	
		1-251-134-11 INLET, AC (NONPOLAR)	
		1-533-183-11 HOLDER, FUSE	
		7-685-646-79 SCREW +BVTP 3X8 TYPE2 IT-3	
		7-685-647-79 SCREW +BVTP 3X10 TYPE2 IT-3	
		< CAPACITOR >	
△C001	1-137-524-11	FILM	0.22uF 20% 250V
△C002	1-161-742-00	CERAMIC	0.0022uF 20% 400V
△C003	1-161-742-00	CERAMIC	0.0022uF 20% 400V
△C004	1-161-741-00	CERAMIC	0.001uF 10% 400V
C006	1-137-525-11	FILM	0.1uF 20% 250V
C007	1-126-538-11	ELECT	100uF 20% 400V
C008	1-161-742-00	CERAMIC	0.0022uF 20% 400V
△C009	1-161-742-00	CERAMIC	0.0022uF 20% 400V
C011	1-136-208-11	FILM	0.068uF 10% 630V
C012	1-128-088-11	ELECT	56uF 20% 35V
C013	1-184-143-11	CERAMIC	0.001uF 10% 1KV
C014	1-130-477-00	MYLAR	0.0033uF 5% 50V
C015	1-126-933-11	ELECT	100uF 20% 10V
C016	1-130-467-00	MYLAR	470PF 5% 50V
C017	1-126-964-11	ELECT	10uF 20% 50V
C018	1-136-103-00	MYLAR	0.068uF 10% 50V
C019	1-136-185-00	MYLAR	0.1uF 10% 50V
C020	1-128-449-11	ELECT	0.001F 20% 10V
C021	1-128-496-11	ELECT	470uF 20% 10V
C022	1-128-246-11	ELECT	2700uF 20% 10V
C024	1-128-449-11	ELECT	0.001F 20% 10V
C025	1-126-964-11	ELECT	10uF 20% 50V
C026	1-126-589-11	ELECT	2200uF 20% 16V
C027	1-126-183-11	ELECT	1000uF 20% 16V
C042	1-130-467-00	MYLAR	470PF 5% 50V
		< CONNECTOR >	
* C002	1-560-897-00	PIN, CONNECTOR 9P	
* C003	1-560-900-00	PIN, CONNECTOR 12P	
		< DIODE >	
△D001	8-719-510-14	DIODE S2V860	
D002	8-719-018-55	DIODE ES1F-N	
D003	8-719-313-17	DIODE A002A-V0	
D004	8-719-313-17	DIODE A002A-V0	
D005	8-719-313-17	DIODE A002A-V0	
D006	8-719-911-18	DIODE 1SS119	
D007	8-719-043-76	DIODE AR04V0	
D010	8-719-043-76	DIODE AR04V0	
D011	8-719-109-85	DIODE RDS. 6ES-B2	

Ref. No.	Part No.	Description	Remark
D012	8-719-043-71	DIODE FMB-24	
D013	8-719-043-71	DIODE FMB-24	
		< FUSE >	
△F001	1-578-228-11	FUSE (H.R.C.)	
		< IC >	
△IC001	8-758-197-67	IC STR-M5552	
△IC002	8-748-923-50	IC PHOTO COUPLER PC111LS	
IC003	8-758-908-15	IC TL431CLP	
IC004	8-758-908-15	IC TL431CLP	
IC005	8-758-069-28	IC PQ68RF11	
		< COIL >	
△L002	1-406-912-11	COIL, LINE FILTER	
L003	1-412-525-31	INDUCTOR 10uH	
L004	1-412-525-31	INDUCTOR 10uH	
L006	1-412-533-21	INDUCTOR 47uH	
		< IC LINK >	
△PS001	1-532-984-11	LINK, IC	
		< TRANSISTOR >	
Q001	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q003	8-729-140-93	TRANSISTOR 2SB733-34	
Q004	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q005	8-729-801-93	TRANSISTOR 2SD1387-3	
		< RESISTOR >	
R002	1-260-127-51	CARBON 220K 5% 1/2W	
R004	1-249-415-11	CARBON 680 5% 1/4W F	
R005	1-249-426-11	CARBON 5.6K 5% 1/4W	
R006	1-249-425-11	CARBON 4.7K 5% 1/4W F	
R007	1-249-417-11	CARBON 1K 5% 1/4W F	
R008	1-249-419-11	CARBON 1.5K 5% 1/4W F	
R009	1-207-620-00	WIREWOUND 1 10% 2W F	
R010	1-249-435-11	CARBON 33K 5% 1/4W	
R011	1-249-429-11	CARBON 10K 5% 1/4W	
R012	1-249-435-11	CARBON 33K 5% 1/4W	
R014	1-249-419-11	CARBON 1.5K 5% 1/4W F	
R015	1-249-402-11	CARBON 15K 5% 1/4W F	
R016	1-249-417-11	CARBON 5K 5% 1/4W F	
R017	1-215-431-00	METAL 2.7K 1% 1/6W	
R018	1-215-411-00	METAL 390 1% 1/6W	
R019	1-215-429-00	METAL 2.2K 1% 1/6W	
△R021	1-219-162-11	FUSIBLE 3.3 5% 1/4W F	
R022	1-215-853-11	METAL OXIDE 100 5% 1W F	
R023	1-249-404-00	CARBON 82 5% 1/4W	
R024	1-215-429-00	METAL 2.2K 1% 1/6W	

The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

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Ref. No.	Part No.	Description	Remark
R025	1-215-426-00	METAL	2.2K 1% 1/4W
R026	1-249-423-11	CARBON	1.3K 5% 1/4W F
R027	1-247-706-11	CARBON	330 5% 1/4W F
R028	1-249-429-11	CARBON	10K 5% 1/4W
R047	1-249-395-11	CARBON	15 5% 1/4W F
R048	1-249-425-11	CARBON	4.7K 5% 1/4W F
R061	1-249-415-11	CARBON	680 5% 1/4W F
R063	1-215-928-11	METAL OXIDE	100K 5% 3W F
R064	1-215-928-11	METAL OXIDE	100K 5% 3W F

< TRANSFORMER >

△T001 1-426-715-11 TRANSFORMER, CONVERTER

* A-7063-758-A RP-165 BOARD, COMPLETE

(Ref. No 1,000 series)

* 3-955-621-01 CASE (MAIN), SHIELD, RP

< CAPACITOR >

C001	1-164-232-11	CERAMIC CHIP	0.01uF 50V
C002	1-163-224-11	CERAMIC CHIP	7PF 0.25PF 50V
C003	1-164-232-11	CERAMIC CHIP	0.01uF 50V
C004	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V
C005	1-164-232-11	CERAMIC CHIP	0.01uF 50V
C006	1-164-232-11	CERAMIC CHIP	0.01uF 50V
C007	1-163-125-00	CERAMIC CHIP	220PF 5% 50V
C008	1-163-239-11	CERAMIC CHIP	33PF 5% 50V
C009	1-163-091-00	CERAMIC CHIP	8PF 50V
C010	1-126-157-11	ELECT	10uF 20% 16V
C011	1-164-534-11	CERAMIC CHIP	1uF 16V
C012	1-164-469-11	CERAMIC CHIP	0.22uF 10% 16V
C013	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V
C014	1-164-534-11	CERAMIC CHIP	1uF 16V
C015	1-126-157-11	ELECT	10uF 20% 16V
C016	1-163-222-11	CERAMIC CHIP	5PF 0.25PF 50V
C017	1-164-232-11	CERAMIC CHIP	0.01uF 50V
C018	1-124-234-00	ELECT	22uF 20% 16V
C019	1-163-038-00	CERAMIC CHIP	0.1uF 25V
C020	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C021	1-164-232-11	CERAMIC CHIP	0.01uF 50V
C022	1-163-224-11	CERAMIC CHIP	7PF 0.25PF 50V
C023	1-164-232-11	CERAMIC CHIP	0.01uF 50V
C024	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V
C025	1-164-232-11	CERAMIC CHIP	0.01uF 50V
C026	1-164-232-11	CERAMIC CHIP	0.01uF 50V
C027	1-163-125-00	CERAMIC CHIP	220PF 5% 50V
C028	1-163-239-11	CERAMIC CHIP	33PF 5% 50V
C029	1-163-224-11	CERAMIC CHIP	7PF 0.25PF 50V

Ref. No.	Part No.	Description	Remark
C030	1-126-154-11	ELECT	47uF 20% 6.3V
C031	1-163-038-00	CERAMIC CHIP	0.1uF 25V
C032	1-164-469-11	CERAMIC CHIP	0.22uF 10% 16V
C033	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V
C034	1-163-038-00	CERAMIC CHIP	0.1uF 25V
C035	1-126-157-11	ELECT	10uF 20% 16V
C036	1-163-222-11	CERAMIC CHIP	5PF 0.25PF 50V
C037	1-164-232-11	CERAMIC CHIP	0.01uF 50V
C038	1-126-157-11	ELECT	10uF 20% 16V
C039	1-163-038-00	CERAMIC CHIP	0.1uF 25V
C040	1-164-232-11	CERAMIC CHIP	0.01uF 50V
C041	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C042	1-126-157-11	ELECT	10uF 20% 16V
C043	1-127-558-11	ELECT(SOLID)	10uF 20% 10V
C044	1-163-038-00	CERAMIC CHIP	0.1uF 25V
C054	1-163-117-00	CERAMIC CHIP	100PF 5% 50V
C055	1-163-249-11	CERAMIC CHIP	82PF 5% 50V
C056	1-163-251-11	CERAMIC CHIP	100PF 5% 50V
C057	1-163-121-00	CERAMIC CHIP	150PF 5% 50V
C059	1-164-232-11	CERAMIC CHIP	0.01uF 50V
C060	1-163-038-00	CERAMIC CHIP	0.1uF 25V
C061	1-162-507-11	CERAMIC CHIP	0.039uF 10% 25V
C062	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C063	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V
C064	1-163-031-11	CERAMIC CHIP	0.01uF 50V

< CONNECTOR >

CN001 1-506-487-11 PIN, CONNECTOR 8P

CN002 1-691-053-21 HOUSING, CONNECTOR 21P

CN003 1-566-545-41 CONNECTOR, FPC (NON ZIF) 13P

< DIODE >

D001	8-719-404-46	DIODE	MA110
D002	8-719-404-46	DIODE	MA110
D003	8-719-404-46	DIODE	MA110
D004	8-719-404-46	DIODE	MA110

< IC >

IC001 8-752-003-44 IC CX20034

< COIL >

L001	1-408-948-00	INDUCTOR	220uH
L002	1-408-973-21	INDUCTOR	18uH
L003	1-408-982-11	INDUCTOR	100uH
L004	1-408-974-21	INDUCTOR	22uH
L006	1-408-973-21	INDUCTOR	18uH
L009	1-408-970-21	INDUCTOR	10uH

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RP-165
SW-227

Ref. No.	Part No.	Description	Remark
< TRANSISTOR >			
Q001	8-729-102-07	TRANSISTOR 2SC2223-F13	
Q002	8-729-102-07	TRANSISTOR 2SC2223-F13	
Q003	8-729-421-19	TRANSISTOR UM2213	
Q004	8-729-420-12	TRANSISTOR XM4213	
Q006	8-729-010-05	TRANSISTOR MSB709-RT1	
Q007	8-729-010-05	TRANSISTOR MSB709-RT1	
Q008	8-729-010-05	TRANSISTOR MSB709-RT1	
Q009	8-729-402-84	TRANSISTOR XM4601	
Q010	8-729-010-25	TRANSISTOR MSD601-RT1	
Q011	8-729-420-20	TRANSISTOR XM4312	
Q017	8-729-010-25	TRANSISTOR MSD601-RT1	
Q018	8-729-010-25	TRANSISTOR MSD601-RT1	
Q020	8-729-421-19	TRANSISTOR UM2213	
< RESISTOR >			
R001	1-216-077-00	METAL CHIP 15K 5% 1/10W	
R002	1-216-079-00	METAL CHIP 18K 5% 1/10W	
R003	1-216-055-00	METAL CHIP 1.8K 5% 1/10W	
R004	1-216-055-00	METAL CHIP 1.8K 5% 1/10W	
R005	1-216-689-11	METAL CHIP 39K 0.5% 1/10W	
R006	1-216-689-11	METAL CHIP 39K 0.5% 1/10W	
R007	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R008	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R009	1-216-001-00	METAL CHIP 10 5% 1/10W	
R010	1-216-031-00	METAL CHIP 180 5% 1/10W	
R011	1-216-077-00	METAL CHIP 15K 5% 1/10W	
R012	1-216-079-00	METAL CHIP 18K 5% 1/10W	
R013	1-216-055-00	METAL CHIP 1.8K 5% 1/10W	
R014	1-216-055-00	METAL CHIP 1.8K 5% 1/10W	
R015	1-216-085-00	METAL CHIP 33K 5% 1/10W	
R016	1-216-085-00	METAL CHIP 33K 5% 1/10W	
R017	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R018	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R019	1-216-001-00	METAL CHIP 10 5% 1/10W	
R020	1-216-031-00	METAL CHIP 180 5% 1/10W	
R021	1-216-089-91	METAL GLAZE 47K 5% 1/10W	
R022	1-216-053-00	METAL CHIP 1.5K 5% 1/10W	
R023	1-216-089-91	METAL GLAZE 47K 5% 1/10W	
R024	1-216-053-00	METAL CHIP 1.5K 5% 1/10W	
R025	1-216-583-11	METAL CHIP 22K 0.5% 1/10W	
R026	1-216-586-11	METAL CHIP 30K 0.5% 1/10W	
R028	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R029	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R040	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R041	1-216-085-00	METAL CHIP 33K 5% 1/10W	
R042	1-216-035-00	METAL CHIP 270 5% 1/10W	
R043	1-216-033-00	METAL CHIP 220 5% 1/10W	

Ref. No.	Part No.	Description	Remark
R044	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R045	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R046	1-216-021-00	METAL CHIP 68 5% 1/10W	
R047	1-216-017-00	METAL CHIP 47 5% 1/10W	
R048	1-216-043-00	METAL CHIP 560 5% 1/10W	
R049	1-216-086-00	METAL GLAZE 36K 5% 1/10W	
R050	1-216-089-00	METAL CHIP 6.8K 5% 1/10W	
R051	1-216-072-00	METAL CHIP 9.1K 5% 1/10W	
R052	1-216-063-00	METAL CHIP 3.9K 5% 1/10W	
R053	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R054	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R055	1-216-048-00	METAL CHIP 910 5% 1/10W	
R056	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R057	1-216-025-00	METAL CHIP 100 5% 1/10W	
R058	1-216-025-00	METAL CHIP 100 5% 1/10W	
R064	1-216-025-00	METAL CHIP 100 5% 1/10W	
R067	1-216-025-00	METAL CHIP 100 5% 1/10W	
R070	1-216-295-00	METAL CHIP 0 5% 1/10W	
R071	1-216-295-00	METAL CHIP 0 5% 1/10W	
R072	1-216-039-00	METAL CHIP 390 5% 1/10W	
R073	1-216-021-00	METAL CHIP 68 5% 1/10W	
R074	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R075	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R076	1-216-025-00	METAL CHIP 100 5% 1/10W	
R090	1-216-687-11	METAL CHIP 33K 0.5% 1/10W	
< VARIABLE RESISTOR >			
RV001	1-230-720-11	RES. ADJ. CARBON 4.7K	
RV002	1-230-720-11	RES. ADJ. CARBON 4.7K	

* 1-850-413-11 SW-227 BOARD			

(Ref. No 7,000 series)			
< CONNECTOR >			
CN601	1-564-013-11	PIN, CONNECTOR 3P	
< ROTARY SWITCH >			
S601	1-571-300-21	SWITCH, ROTARY	

Ref. No.	Part No.	Description	Remark
*	A-7063-940-A	TC-30 (G) BOARD, COMPLETE (VC,NP)	
*	A-7063-995-A	TC-30 (F) BOARD, COMPLETE (B)	

(Ref. No 5,000 series)			
1-751-906-11 CABLE, FLAT (FMT-5)			
< CAPACITOR >			
C001	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C002	1-126-233-11	ELECT	22uF 20% 50V
C003	1-126-233-11	ELECT	22uF 20% 50V
C005	1-163-234-11	CERAMIC CHIP	20PF 5% 50V
C006	1-165-319-11	CERAMIC CHIP	0.1uF 50V
C008	1-163-102-00	CERAMIC CHIP	24PF 5% 50V
C013	1-163-124-00	CERAMIC CHIP	200PF 5% 50V
C014	1-163-227-11	CERAMIC CHIP	10PF 0.5PF 50V
C015	1-163-249-11	CERAMIC CHIP	82PF 5% 50V
C016	1-124-638-11	ELECT	22uF 20% 10V
C017	1-126-233-11	ELECT	22uF 20% 50V
C018	1-124-638-11	ELECT	22uF 20% 10V
C020	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C021	1-165-319-11	CERAMIC CHIP	0.1uF 50V
C022	1-165-319-11	CERAMIC CHIP	0.1uF 50V
C023	1-124-443-00	ELECT	100uF 20% 10V
C024	1-124-443-00	ELECT	100uF 20% 10V
C025	1-126-233-11	ELECT	22uF 20% 30V
C031	1-163-831-11	CERAMIC CHIP	0.01uF 50V (B)
C032	1-163-257-11	CERAMIC CHIP	180PF 5% 50V
C034	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C035	1-165-319-11	CERAMIC CHIP	0.1uF 50V
C036	1-165-319-11	CERAMIC CHIP	0.1uF 50V
C037	1-124-443-00	ELECT	100uF 20% 10V
C038	1-124-443-00	ELECT	100uF 20% 10V
C041	1-163-031-11	CERAMIC CHIP	0.01uF 50V (B)
C042	1-163-117-00	CERAMIC CHIP	100PF 5% 50V (B)
C043	1-163-835-00	CERAMIC CHIP	0.047uF 50V (B)
C044	1-163-031-11	CERAMIC CHIP	0.01uF 50V (B)
C045	1-124-907-11	ELECT	10uF 20% 50V (B)
C046	1-163-133-00	CERAMIC CHIP	470PF 5% 50V (B)
C047	1-124-907-11	ELECT	10uF 20% 50V (B)
C049	1-163-118-00	CERAMIC CHIP	110PF 5% 50V (B)
C050	1-163-118-00	CERAMIC CHIP	110PF 5% 50V (B)
C051	1-163-103-00	CERAMIC CHIP	27PF 5% 50V (B)
C052	1-163-103-00	CERAMIC CHIP	27PF 5% 50V (B)
C053	1-165-319-11	CERAMIC CHIP	0.1uF 50V (B)
C054	1-165-319-11	CERAMIC CHIP	0.1uF 50V (B)
C055	1-124-907-11	ELECT	10uF 20% 50V (B)
C057	1-163-017-00	CERAMIC CHIP	0.0047uF 5% 50V (B)
C058	1-124-907-11	ELECT	10uF 20% 50V (B)

Ref. No.	Part No.	Description	Remark
C059	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V (B)
C061	1-124-927-11	ELECT	4.7uF 20% 100V (B)
C062	1-124-903-11	ELECT	1uF 20% 50V (B)
C063	1-163-035-00	CERAMIC CHIP	0.047uF 50V (B)
C065	1-124-907-11	ELECT	10uF 20% 50V (B)
C067	1-163-105-00	CERAMIC CHIP	33PF 5% 50V (B)
C068	1-163-123-00	CERAMIC CHIP	180PF 5% 50V (B)
C069	1-163-105-00	CERAMIC CHIP	33PF 5% 50V (B)
C070	1-163-123-00	CERAMIC CHIP	180PF 5% 50V (B)
C073	1-163-031-11	CERAMIC CHIP	0.01uF 50V (B)
C074	1-163-275-11	CERAMIC CHIP	0.001uF 5% 50V (B)
C075	1-163-125-00	CERAMIC CHIP	220PF 5% 50V (B)
C076	1-163-121-00	CERAMIC CHIP	150PF 5% 50V (B)
C078	1-163-125-00	CERAMIC CHIP	220PF 5% 50V (B)
C079	1-124-903-11	ELECT	1uF 20% 50V (B)
C080	1-124-803-11	ELECT	1uF 20% 50V (B)
C081	1-104-852-11	TANTAL. CHIP	22uF 20% 6.3V (B)
C082	1-135-157-21	TANTALUM CHIP	10uF 20% 6.3V (B)
C083	1-163-031-11	CERAMIC CHIP	0.01uF 50V (B)
C084	1-163-031-11	CERAMIC CHIP	0.01uF 50V (B)
C085	1-126-233-11	ELECT	22uF 20% 50V (B)
C089	1-163-097-00	CERAMIC CHIP	15PF 5% 50V (B)
C090	1-163-097-00	CERAMIC CHIP	15PF 5% 50V
C091	1-163-257-11	CERAMIC CHIP	180PF 5% 50V
C093	1-163-245-11	CERAMIC CHIP	56PF 5% 50V
C094	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C095	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C096	1-165-319-11	CERAMIC CHIP	0.1uF 50V
C097	1-165-319-11	CERAMIC CHIP	0.1uF 50V
< CONNECTOR >			
* CN001	1-691-047-21	HOUSING, CONNECTOR 15P	
CN002	1-506-467-11	PIA, CONNECTOR 2P	
< DIODE >			
D001	8-719-801-78	DIODE 1SS184 (B)	
< DELAY LINE >			
DL001	1-415-313-00	DELAY LINE (1H) (B)	
< IC >			
IC002	8-758-900-71	IC HD140538FP	
IC003	8-752-035-00	IC CXA1227Q (B)	
IC004	8-752-034-04	IC CXA1219M (B)	

Ref. No.	Part No.	Description	Remark
< JUMPER RESISTOR >			
JR001	1-216-295-00	METAL CHIP	0 5% 1/10W
JR002	1-216-296-00	METAL CHIP	0 5% 1/8W
JR003	1-216-295-00	METAL CHIP	0 5% 1/10W
JR004	1-216-295-00	METAL CHIP	0 5% 1/8W
JR005	1-216-296-00	METAL CHIP	0 5% 1/8W
JR006	1-216-296-00	METAL CHIP	0 5% 1/8W
JR007	1-216-296-00	METAL CHIP	0 5% 1/8W
JR008	1-216-296-00	METAL CHIP	0 5% 1/8W
JR009	1-216-295-00	METAL CHIP	0 5% 1/10W
JR010	1-216-296-00	METAL CHIP	0 5% 1/8W
JR011	1-216-295-00	METAL CHIP	0 5% 1/8W
JR012	1-216-295-00	METAL CHIP	0 5% 1/10W
JR013	1-216-295-00	METAL CHIP	0 5% 1/10W
JR014	1-216-296-00	METAL CHIP	0 5% 1/8W
JR015	1-216-295-00	METAL CHIP	0 5% 1/10W
JR016	1-216-295-00	METAL CHIP	0 5% 1/10W
JR017	1-216-295-00	METAL CHIP	0 5% 1/10W
JR018	1-216-295-00	METAL CHIP	0 5% 1/10W
JR021	1-216-296-00	METAL CHIP	0 5% 1/8W
JR023	1-216-296-00	METAL CHIP	0 5% 1/8W
JR024	1-216-295-00	METAL CHIP	0 5% 1/10W
JR025	1-216-295-00	METAL CHIP	0 5% 1/10W
JR026	1-216-296-00	METAL CHIP	0 5% 1/8W
JR027	1-216-295-00	METAL CHIP	0 5% 1/10W
JR028	1-216-295-00	METAL CHIP	0 5% 1/10W
JR030	1-216-296-00	METAL CHIP	0 5% 1/8W
JR031	1-216-296-00	METAL CHIP	0 5% 1/8W
JR032	1-216-295-00	METAL CHIP	0 5% 1/10W
JR033	1-216-296-00	METAL CHIP	0 5% 1/8W
JR034	1-216-296-00	METAL CHIP	0 5% 1/8W
JR035	1-216-296-00	METAL CHIP	0 5% 1/8W
JR036	1-216-296-00	METAL CHIP	0 5% 1/8W
JR037	1-216-295-00	METAL CHIP	0 5% 1/8W
JR038	1-216-295-00	METAL CHIP	0 5% 1/10W
JR039	1-216-295-00	METAL CHIP	0 5% 1/10W
JR040	1-216-295-00	METAL CHIP	0 5% 1/8W
JR041	1-216-296-00	METAL CHIP	0 5% 1/8W
JR042	1-216-296-00	METAL CHIP	0 5% 1/8W
JR043	1-216-295-00	METAL CHIP	0 5% 1/10W
JR044	1-216-295-00	METAL CHIP	0 5% 1/10W
JR045	1-216-295-00	METAL CHIP	0 5% 1/8W
JR046	1-216-296-00	METAL CHIP	0 5% 1/8W
JR047	1-216-296-00	METAL CHIP	0 5% 1/8W
JR048	1-216-296-00	METAL CHIP	0 5% 1/8W
JR049	1-216-296-00	METAL CHIP	0 5% 1/8W
JR050	1-216-295-00	METAL CHIP	0 5% 1/8W
JR051	1-216-296-00	METAL CHIP	0 5% 1/8W

Ref. No.	Part No.	Description	Remark
JR052	1-216-296-00	METAL CHIP	0 5% 1/8W
JR053	1-216-296-00	METAL CHIP	0 5% 1/8W
JR054	1-216-296-00	METAL CHIP	0 5% 1/8W
JR055	1-216-295-00	METAL CHIP	0 5% 1/10W
JR056	1-216-295-00	METAL CHIP	0 5% 1/10W
JR057	1-216-295-00	METAL CHIP	0 5% 1/10W
JR060	1-216-295-00	METAL CHIP	0 5% 1/10W
JR081	1-216-296-00	METAL CHIP	0 5% 1/8W
JR083	1-216-295-00	METAL CHIP	0 5% 1/10W
JR084	1-216-296-00	METAL CHIP	0 5% 1/8W
JR085	1-216-295-00	METAL CHIP	0 5% 1/10W
JR086	1-216-295-00	METAL CHIP	0 5% 1/10W
JR088	1-216-295-00	METAL CHIP	0 5% 1/8W
JR089	1-216-296-00	METAL CHIP	0 5% 1/8W
JR092	1-216-296-00	METAL CHIP	0 5% 1/8W
JR093	1-216-296-00	METAL CHIP	0 5% 1/8W
JR094	1-216-296-00	METAL CHIP	0 5% 1/8W
< COIL >			
L001	1-410-390-11	INDUCTOR CHIP 56uH	
L002	1-410-393-11	INDUCTOR CHIP 100uH	
L003	1-410-390-11	INDUCTOR CHIP 56uH	
L004	1-410-391-11	INDUCTOR CHIP 68uH	
L005	1-408-418-00	INDUCTOR 56uH	
L006	1-408-413-00	INDUCTOR 22uH	
L007	1-408-413-00	INDUCTOR 22uH	
L008	1-410-390-11	INDUCTOR CHIP 56uH	
L010	1-408-408-00	INDUCTOR 8.2uH (B)	
L011	1-408-408-00	INDUCTOR 8.2uH (B)	
L012	1-408-410-00	INDUCTOR 12uH (B)	
L013	1-408-410-00	INDUCTOR 12uH (B)	
L014	1-408-409-00	INDUCTOR 10uH (B)	
L015	1-408-409-00	INDUCTOR 10uH (B)	
L024	1-410-392-11	INDUCTOR CHIP 82uH	
L025	1-410-379-31	INDUCTOR CHIP 6.8uH	
L026	1-410-385-11	INDUCTOR CHIP 22uH	
< VARIABLE COIL >			
LV001	1-408-530-00	COIL, VARIABLE (B)	
LV002	1-408-532-00	COIL, VARIABLE (B)	
LV003	1-408-532-00	COIL, VARIABLE (B)	
< TRANSISTOR >			
Q001	8-729-010-25	TRANSISTOR MSD601-RT1	
Q002	8-729-010-25	TRANSISTOR MSD601-RT1	
Q003	8-729-010-25	TRANSISTOR MSD601-RT1	
Q005	8-729-010-25	TRANSISTOR MSD601-RT1	
Q006	8-729-010-25	TRANSISTOR MSD601-RT1	

Ref. No.	Part No.	Description	Remark
Q007	8-729-010-25	TRANSISTOR	MSD601-RT1
Q009	8-729-010-25	TRANSISTOR	MSD601-RT1
Q010	8-729-010-25	TRANSISTOR	MSD601-RT1
Q013	8-729-421-19	TRANSISTOR	UN2213 (B)
Q014	8-729-010-25	TRANSISTOR	MSD601-RT1 (B)
Q015	8-729-010-25	TRANSISTOR	MSD601-RT1 (B)
Q016	8-729-010-25	TRANSISTOR	MSD601-RT1 (B)
Q017	8-729-010-25	TRANSISTOR	MSD601-RT1
Q019	8-729-010-25	TRANSISTOR	MSD601-RT1
Q021	8-729-010-25	TRANSISTOR	MSD601-RT1 (B)
Q022	8-729-010-25	TRANSISTOR	MSD601-RT1 (B)
Q023	8-729-010-25	TRANSISTOR	MSD601-RT1 (B)
Q024	8-729-010-25	TRANSISTOR	MSD601-RT1 (B)
Q025	8-729-010-25	TRANSISTOR	MSD601-RT1
Q026	8-729-010-25	TRANSISTOR	MSD601-RT1
Q027	8-729-010-25	TRANSISTOR	MSD601-RT1
Q028	8-729-901-08	TRANSISTOR	DTA144EK (B)
Q029	8-729-421-19	TRANSISTOR	UN2213
Q030	8-729-421-19	TRANSISTOR	UN2213 (B)
Q031	8-729-421-19	TRANSISTOR	UN2213 (B)
< RESISTOR >			
R001	1-216-081-00	METAL CHIP	22K 5% 1/10W
R002	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
R003	1-216-041-00	METAL CHIP	470 5% 1/10W
R004	1-216-055-00	METAL CHIP	1.8K 5% 1/10W
R005	1-216-051-00	METAL CHIP	1.2K 5% 1/10W
R006	1-216-081-00	METAL CHIP	22K 5% 1/10W
R008	1-216-215-00	METAL CHIP	0 5% 1/10W
R009	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
R010	1-216-049-00	METAL CHIP	1K 5% 1/10W
R011	1-216-049-00	METAL CHIP	1K 5% 1/10W
R014	1-216-045-00	METAL CHIP	680 5% 1/10W
R015	1-216-045-00	METAL CHIP	680 5% 1/10W
R016	1-216-049-00	METAL CHIP	1K 5% 1/10W
R017	1-216-045-00	METAL CHIP	680 5% 1/10W
R018	1-216-045-00	METAL CHIP	680 5% 1/10W
R019	1-216-047-00	METAL CHIP	820 5% 1/10W
R020	1-216-081-00	METAL CHIP	22K 5% 1/10W
R021	1-216-065-00	METAL CHIP	4.7K 5% 1/10W
R022	1-216-081-00	METAL CHIP	22K 5% 1/10W
R023	1-216-295-00	METAL CHIP	0 5% 1/10W
R024	1-216-295-00	METAL CHIP	0 5% 1/10W
R025	1-216-065-00	METAL CHIP	4.7K 5% 1/10W
R026	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R027	1-216-295-00	METAL CHIP	0 5% 1/10W
R028	1-216-295-00	METAL CHIP	0 5% 1/10W
R029	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R030	1-216-025-00	METAL CHIP	100 5% 1/10W

Ref. No.	Part No.	Description	Remark
R031	1-216-061-00	METAL CHIP	22K 5% 1/10W
R032	1-216-065-00	METAL CHIP	4.7K 5% 1/10W
R033	1-216-285-00	METAL CHIP	0 5% 1/10W
R034	1-216-295-00	METAL CHIP	0 5% 1/10W (VC)
R042	1-216-089-91	METAL GLAZE	47K 5% 1/10W (B)
R043	1-216-065-00	METAL CHIP	4.7K 5% 1/10W (B)
R044	1-216-073-00	METAL CHIP	10K 5% 1/10W
R045	1-216-065-00	METAL CHIP	4.7K 5% 1/10W (B)
R047	1-216-055-00	METAL CHIP	1.8K 5% 1/10W (B)
R048	1-216-051-00	METAL CHIP	1.2K 5% 1/10W (B)
R049	1-216-043-00	METAL CHIP	560 5% 1/10W (B)
R050	1-216-057-00	METAL CHIP	2.2K 5% 1/10W (B)
R051	1-216-081-00	METAL CHIP	22K 5% 1/10W (B)
R052	1-216-073-00	METAL CHIP	10K 5% 1/10W
R053	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
R056	1-216-295-00	METAL CHIP	0 5% 1/10W (B)
R058	1-216-081-00	METAL CHIP	22K 5% 1/10W
R059	1-216-025-00	METAL CHIP	100 5% 1/10W
R060	1-216-065-00	METAL CHIP	4.7K 5% 1/10W
R071	1-216-057-00	METAL CHIP	2.2K 5% 1/10W (B)
R073	1-216-081-00	METAL CHIP	22K 5% 1/10W (B)
R074	1-216-039-00	METAL CHIP	390 5% 1/10W (B)
R075	1-216-039-00	METAL CHIP	390 5% 1/10W (B)
R077	1-216-073-00	METAL CHIP	10K 5% 1/10W (B)
R078	1-216-039-00	METAL CHIP	390 5% 1/10W (B)
R079	1-216-039-00	METAL CHIP	390 5% 1/10W (B)
R080	1-216-121-00	METAL CHIP	1M 5% 1/10W (B)
R081	1-216-079-00	METAL CHIP	18K 5% 1/10W (B)
R082	1-216-085-00	METAL CHIP	4.7K 5% 1/10W (B)
R083	1-216-128-11	METAL GLAZE	2M 5% 1/10W (B)
R084	1-216-097-00	METAL CHIP	100K 5% 1/10W (B)
R086	1-216-077-00	METAL CHIP	15K 5% 1/10W (B)
R087	1-216-060-00	METAL GLAZE	3K 5% 1/10W (B)
R088	1-216-060-00	METAL GLAZE	3K 5% 1/10W (B)
R089	1-216-067-00	METAL CHIP	5.6K 5% 1/10W (B)
R090	1-216-067-00	METAL CHIP	5.6K 5% 1/10W (B)
R091	1-216-295-00	METAL CHIP	0 5% 1/10W (B)
R092	1-216-295-00	METAL CHIP	0 5% 1/10W (B)
R093	1-216-295-00	METAL CHIP	0 5% 1/10W (B)
R094	1-216-077-00	METAL CHIP	15K 5% 1/10W (B)
R095	1-216-049-00	METAL CHIP	1K 5% 1/10W (B)
R096	1-216-295-00	METAL CHIP	0 5% 1/10W (B)
R097	1-216-049-00	METAL CHIP	1K 5% 1/10W (B)
R098	1-216-685-11	METAL CHIP	27K 0.5% 1/10W (B)
R099	1-216-295-00	METAL CHIP	0 5% 1/10W (B)
R100	1-216-073-00	METAL CHIP	10K 5% 1/10W (B)
R101	1-216-061-00	METAL CHIP	3.3K 5% 1/10W (B)
R102	1-216-061-00	METAL CHIP	3.3K 5% 1/10W
R103	1-216-057-00	METAL CHIP	2.2K 5% 1/10W (B)

TC-30

TK-26

TM-119

TU-145

Ref. No.	Part No.	Description	Remark
R104	1-216-048-00	METAL CHIP	1K 5% 1/10W
R105	1-216-049-00	METAL CHIP	1K 5% 1/10W
R106	1-216-043-00	METAL CHIP	500 5% 1/10W
R107	1-216-043-00	METAL CHIP	500 5% 1/10W
R108	1-216-037-00	METAL CHIP	330 5% 1/10W
R111	1-216-049-00	METAL CHIP	1K 5% 1/10W
R112	1-216-049-00	METAL CHIP	1K 5% 1/10W
R113	1-216-037-00	METAL CHIP	330 5% 1/10W
R114	1-216-081-00	METAL CHIP	22K 5% 1/10W
R115	1-216-005-00	METAL CHIP	4.7K 5% 1/10W
R118	1-216-295-00	METAL CHIP	0 5% 1/10W
RS01	1-216-212-00	METAL GLAZE	3.9K 5% 1/8W
< VARIABLE RESISTOR >			
RV001	1-238-019-11	RES. ADJ. CARBON 47K	(B)
RV002	1-241-630-11	RES. ADJ. CARBON 10K	(B)
RV003	1-241-630-11	RES. ADJ. CARBON 10K	(B)
< VIBRATOR >			
X001	1-577-117-11	VIBRATOR, CRYSTAL (4.43MHz) (B)	

* A-7063-937-A TK-26 (G) BOARD, COMPLETE			

(Ref. No 7,000 series)			
< BUZZER >			
BZ501	1-529-080-11	BUZZER, PIEZOELECTRIC	
< CAPACITOR >			
C501	1-163-038-00	CERAMIC CHIP	0.1uF 25V
C502	1-124-589-11	ELECT	47uF 20% 16V
C503	1-163-038-00	CERAMIC CHIP	0.1uF 25V
C504	1-164-336-11	CERAMIC CHIP	0.33uF 25V
C505	1-104-905-11	CAP, DOUBLE LAYERS	0.22F
< CONNECTOR >			
* CN501 1-691-059-21 HOUSING, CONNECTOR 27P			
* CN502 1-691-059-21 HOUSING, CONNECTOR 27P			
CN503 1-691-084-21 HOUSING, CONNECTOR 25P			
CN504 1-691-084-21 HOUSING, CONNECTOR 25P			
* CN507 1-564-013-11 PIN, CONNECTOR 3P			
CN508 1-506-481-11 PIN, CONNECTOR 2P			
< DIODE >			
D503	8-719-106-16	DIODE	80G 8M-B1

Ref. No.	Part No.	Description	Remark
< IC >			
IC501	8-759-973-95	IC	BA5219B
< JUMPER RESISTOR >			
JR502	1-216-295-00	METAL CHIP	0 5% 1/10W
JR503	1-216-295-00	METAL CHIP	0 5% 1/10W
JR504	1-216-296-00	METAL CHIP	0 5% 1/8W
< RESISTOR >			
RS01	1-216-295-00	METAL CHIP	0 5% 1/10W
RS05	1-216-013-00	METAL CHIP	33 5% 1/10W
RS06	1-216-013-00	METAL CHIP	33 5% 1/10W
RS07	1-216-013-00	METAL CHIP	33 5% 1/10W
RS08	1-216-013-00	METAL CHIP	33 5% 1/10W
RS09	1-216-017-00	METAL CHIP	47 5% 1/10W
RS11	1-216-295-00	METAL CHIP	0 5% 1/10W
RS12	1-216-295-00	METAL CHIP	0 5% 1/10W
RS19	1-216-295-00	METAL CHIP	0 5% 1/10W

* TM-119 BOARD (Supplied with M904)			

(Ref. No 7,000 series)			
< CONNECTOR >			
CN001 1-506-481-11 PIN, CONNECTOR 2P			

* A-7063-936-A TU-145 (G) BOARD, COMPLETE (VC, NP, AE)			
* A-7063-994-A TU-145 (F) BOARD, COMPLETE (B)			
* A-7063-998-A TU-145 (K) BOARD, COMPLETE (JB)			

(Ref. No 5,000 series)			
1-555-110-00 CABLE, PIN			
1-751-603-11 CABLE, FLAT (FMT-1)			
< CAPACITOR >			
C251	1-184-161-11	CERAMIC CHIP	0.0022uF 10% 100V
C252	1-183-017-00	CERAMIC CHIP	0.0047uF 5% 50V
C253	1-183-009-11	CERAMIC CHIP	0.001uF 10% 50V
C254	1-183-037-11	CERAMIC CHIP	0.02uF 10% 25V
C255	1-124-257-00	ELECT	2.2uF 20% 50V
C901	1-183-009-11	CERAMIC CHIP	0.001uF 10% 50V
C902	1-183-009-11	CERAMIC CHIP	0.001uF 10% 50V
C903	1-183-009-11	CERAMIC CHIP	0.001uF 10% 50V
C905	1-183-009-11	CERAMIC CHIP	0.001uF 10% 50V
C906	1-183-009-11	CERAMIC CHIP	0.001uF 10% 50V
C911	1-183-033-11	CERAMIC CHIP	0.01uF 50V
C912	1-124-477-11	ELECT	47uF 20% 25V

Ref. No.	Part No.	Description	Remark
C913	1-163-031-11	CERAMIC CHIP	0.01uF 50V (B)
C914	1-124-477-11	ELECT	47uF 20K 25V (B)
C915	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C916	1-124-477-11	ELECT	47uF 20K 25V
C918	1-164-161-11	CERAMIC CHIP	0.0022uF 10K 100V
C919	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C920	1-124-927-11	ELECT	4.7uF 20K 100V
C924	1-124-034-51	ELECT	33uF 20K 16V (VC, NP, AE)
C925	1-124-034-51	ELECT	33uF 20K 16V (VC, NP, AE)
C926	1-163-227-11	CERAMIC CHIP	10PF 0.5PF 50V (VC, NP, AE)
C927	1-163-227-11	CERAMIC CHIP	10PF 0.5PF 50V (VC, NP, AE)
C928	1-130-483-00	MYLAR	0.01uF 5K 50V (VC, NP, AE)
C930	1-163-031-11	CERAMIC CHIP	0.01uF 50V (VC, NP, AE)
C931	1-124-477-11	ELECT	47uF 20K 25V (VC, NP, AE)
C932	1-163-031-11	CERAMIC CHIP	0.01uF 50V (VC, NP, AE)
C934	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C935	1-124-477-11	ELECT	47uF 20K 25V
C936	1-124-034-51	ELECT	33uF 20K 16V
C937	1-124-034-51	ELECT	33uF 20K 16V
C938	1-124-034-51	ELECT	33uF 20K 16V
C942	1-126-301-11	ELECT	1uF 20K 50V
C943	1-124-034-51	ELECT	33uF 20K 16V
C945	1-126-301-11	ELECT	1uF 20K 50V
C947	1-124-477-11	ELECT	47uF 20K 25V
C948	1-124-907-11	ELECT	10uF 20K 50V
C950	1-124-927-11	ELECT	4.7uF 20K 100V
C999	1-163-038-00	CERAMIC CHIP	0.1uF 25V

< CONNECTOR >

* CN901 1-691-059-21 HOUSING, CONNECTOR 27P

< DIODE >

D251	8-719-801-48	DIODE	1SS193
D901	8-719-043-13	DIODE	MA3330-H-TX
D903	8-719-210-33	DIODE	EC100S2
D904	8-719-210-33	DIODE	EC100S2

< IC >

IC901	8-759-512-95	IC	TDA8415 (VC, NP, AE)
IC902	8-759-182-88	IC	PQ09725U
IC903	8-759-182-86	IC	PQ05725U

< TUNER >

△IF901	1-693-205-11	TUNER (BTF-3C402) (B)
△TU901	1-693-206-11	TUNER (BTF-3U601) (UB)
△IF901	1-693-207-11	TUNER (BTF-3C401) (VC, NP, AE)
△TU901	1-693-207-11	TUNER (BTF-3C401) (VC, NP, AE)

Ref. No.	Part No.	Description	Remark
< COIL >			
L901	1-408-970-21	INDUCTOR 10uH	
L902	1-408-982-11	INDUCTOR 100uH	
L903	1-408-970-21	INDUCTOR 10uH	(B)
L906	1-408-982-11	INDUCTOR 100uH	
L907	1-408-970-21	INDUCTOR 10uH	(VC, NP, AE)
< TRANSISTOR >			
Q251	8-729-421-22	TRANSISTOR	UN2211
Q253	8-729-010-05	TRANSISTOR	MSB709-RT1
Q254	8-729-010-25	TRANSISTOR	MSD601-RT1
Q601	8-729-422-23	TRANSISTOR	2SD601A-S
Q802	8-729-010-25	TRANSISTOR	MSD601-RT1
Q903	8-729-010-25	TRANSISTOR	MSD601-RT1
Q904	8-729-010-25	TRANSISTOR	MSD601-RT1

< RESISTOR >

R253	1-216-295-00	METAL CHIP	0 5K 1/10W
R254	1-216-053-00	METAL CHIP	1.5K 5K 1/10W
R255	1-216-121-00	METAL CHIP	1M 5K 1/10W
R256	1-216-055-00	METAL CHIP	4.7K 5K 1/10W
R257	1-216-059-00	METAL CHIP	2.7K 5K 1/10W
R258	1-216-063-00	METAL CHIP	3.9K 5K 1/10W
R259	1-216-059-00	METAL CHIP	1.5K 5K 1/10W
R260	1-216-057-00	METAL CHIP	2.2K 5K 1/10W
R901	1-216-295-00	METAL CHIP	0 5K 1/10W
R902	1-410-997-31	INDUCTOR CHIP 2.2uH	
R903	1-216-295-00	METAL CHIP	0 5K 1/10W (B)
R904	1-216-295-00	METAL CHIP	0 5K 1/10W (B)
R905	1-216-295-00	METAL CHIP	0 5K 1/10W
R907	1-216-025-00	METAL CHIP	100 5K 1/10W
R908	1-216-025-00	METAL CHIP	100 5K 1/10W
R909	1-216-025-00	METAL CHIP	100 5K 1/10W
R910	1-216-057-00	METAL CHIP	2.2K 5K 1/10W
R911	1-216-075-00	METAL CHIP	12K 5K 1/10W
R912	1-216-071-00	METAL CHIP	8.2K 5K 1/10W
R913	1-216-049-00	METAL CHIP	1K 5K 1/10W
R916	1-216-025-00	METAL CHIP	100 5K 1/10W
R918	1-216-039-00	METAL CHIP	390 5K 1/10W
R919	1-216-041-00	METAL CHIP	470 5K 1/10W
R921	1-216-295-00	METAL CHIP	0 5K 1/10W
R922	1-216-049-00	METAL CHIP	1K 5K 1/10W (VC, NP, AE)
R923	1-216-049-00	METAL CHIP	1K 5K 1/10W (VC, NP, AE)
R924	1-216-055-00	METAL CHIP	1.8K 5K 1/10W (VC, NP, AE)
R925	1-216-295-00	METAL CHIP	0 5K 1/10W
R926	1-216-045-00	METAL CHIP	680 5K 1/10W
R927	1-216-049-00	METAL CHIP	1K 5K 1/10W
R928	1-216-295-00	METAL CHIP	0 5K 1/10W (UB, B)

The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque Δ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark		
R929	1-216-295-00	METAL CHIP	0	5%	1/10W (UB, B)
R930	1-216-057-00	METAL CHIP	2.2K	5%	1/10W (VC, NP, AE)
R931	1-216-057-00	METAL CHIP	2.2K	5%	1/10W (VC, NP, AE)
R937	1-216-295-00	METAL CHIP	0	5%	1/10W
R940	1-216-295-00	METAL CHIP	0	5%	1/10W
R941	1-216-295-00	METAL CHIP	0	5%	1/10W
R943	1-216-041-00	METAL CHIP	470	5%	1/10W
R944	1-216-041-00	METAL CHIP	470	5%	1/10W
R945	1-216-295-00	METAL CHIP	0	5%	1/10W
R946	1-216-295-00	METAL CHIP	0	5%	1/10W
R947	1-216-295-00	METAL CHIP	0	5%	1/10W
R948	1-216-295-00	METAL CHIP	0	5%	1/10W (VC, NP, AE)
R950	1-216-222-00	METAL GLAZE	10K	5%	1/8W
R951	1-216-295-00	METAL CHIP	0	5%	1/10W
R955	1-216-295-00	METAL CHIP	0	5%	1/10W
R956	1-216-222-00	METAL GLAZE	10K	5%	1/8W
< VARIABLE RESISTOR >					
RV901	1-241-763-11	RES. ADJ. CARBON 4.7K	(VC, NP, AE)		
< VIBRATOR >					
X901	1-567-925-11	VIBRATOR, CRYSTAL (10MHz)	(VC, NP, AE)		

*	A-7063-928-A	VI-121 (G) BOARD, COMPLETE	(VC, NP, B)		
*	A-7066-000-A	VI-121 (I) BOARD, COMPLETE	(AE, UB)		

(Ref. No. Z, 000 series)					
1-751-600-11 CABLE, FLAT (FVR-1)					
1-751-606-11 CABLE, FLAT (FVF-2) (VC, NP, B)					
3-831-441-XX CUSHION (S)					
< CAPACITOR >					
C056	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C100	1-126-154-11	ELECT	47uF	20%	6.3V
C101	1-124-443-00	ELECT	100uF	20%	10V
C102	1-163-036-00	CERAMIC CHIP	0.1uF		25V
C103	1-163-253-11	CERAMIC CHIP	120PF	5%	50V
C104	1-163-131-00	CERAMIC CHIP	390PF	5%	50V
C106	1-163-257-11	CERAMIC CHIP	180PF	5%	50V
C107	1-163-249-11	CERAMIC CHIP	82PF	5%	50V
C108	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C109	1-126-154-11	ELECT	47uF	20%	6.3V
C110	1-126-176-11	ELECT	220uF	20%	10V
C111	1-126-154-11	ELECT	47uF	20%	6.3V
C112	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C113	1-126-154-11	ELECT	47uF	20%	6.3V
C114	1-124-938-11	ELECT	22uF	20%	10V

Ref. No.	Part No.	Description	Remark		
C115	1-163-101-00	CERAMIC CHIP	22PF	5%	50V
C116	1-163-121-00	CERAMIC CHIP	150PF	5%	50V
C117	1-163-101-00	CERAMIC CHIP	22PF	5%	50V
C118	1-126-154-11	ELECT	47uF	20%	6.3V
C119	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C122	1-163-113-00	CERAMIC CHIP	68PF	5%	50V
C123	1-163-099-00	CERAMIC CHIP	18PF	5%	50V
C124	1-163-101-00	CERAMIC CHIP	0.01uF		50V
C125	1-126-154-11	ELECT	47uF	20%	6.3V
C126	1-163-243-11	CERAMIC CHIP	47PF	5%	50V
C127	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C128	1-126-154-11	ELECT	47uF	20%	6.3V
C129	1-126-154-11	ELECT	47uF	20%	6.3V
C130	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C131	1-163-243-11	CERAMIC CHIP	47PF	5%	50V
C132	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C133	1-126-157-11	ELECT	10uF	20%	16V
C134	1-163-127-00	CERAMIC CHIP	270PF	5%	50V
C135	1-163-243-11	CERAMIC CHIP	47PF	5%	50V
C136	1-126-154-11	ELECT	47uF	20%	6.3V
C137	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C138	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C139	1-126-154-11	ELECT	47uF	20%	6.3V
C140	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C141	1-126-154-11	ELECT	47uF	20%	6.3V
C142	1-126-154-11	ELECT	47uF	20%	6.3V
C143	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C144	1-126-154-11	ELECT	47uF	20%	6.3V
C145	1-126-154-11	ELECT	47uF	20%	6.3V
C147	1-163-257-11	CERAMIC CHIP	180PF	5%	50V
C148	1-126-154-11	ELECT	47uF	20%	6.3V
C150	1-126-154-11	ELECT	47uF	20%	6.3V
C151	1-126-157-11	ELECT	10uF	20%	16V
C153	1-163-239-11	CERAMIC CHIP	33PF	5%	50V
C154	1-163-245-11	CERAMIC CHIP	55PF	5%	50V
C155	1-124-638-11	ELECT	22uF	20%	10V
C156	1-126-157-11	ELECT	10uF	20%	16V
C157	1-126-154-11	ELECT	47uF	20%	6.3V
C158	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C159	1-163-121-00	CERAMIC CHIP	150PF	5%	50V
C160	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C161	1-163-017-00	CERAMIC CHIP	0.0047uF		50V
C162	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C163	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C164	1-126-154-11	ELECT	47uF	20%	6.3V
C165	1-163-099-00	CERAMIC CHIP	18PF	5%	50V
C166	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C167	1-126-157-11	ELECT	10uF	20%	16V
C168	1-163-229-11	CERAMIC CHIP	12PF	5%	50V

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
C169	1-163-249-11	CERAMIC CHIP	82PF 5% 50V	C224	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C170	1-126-154-11	ELECT	47uF 20% 6.3V	C225	1-163-241-11	CERAMIC CHIP	39PF 5% 50V
C171	1-126-154-11	ELECT	47uF 20% 6.3V	C226	1-163-113-00	CERAMIC CHIP	68PF 5% 50V
C173	1-126-154-11	ELECT	47uF 20% 6.3V	C228	1-126-154-11	ELECT	47uF 20% 6.3V
C174	1-126-157-11	ELECT	10uF 20% 16V	C229	1-127-561-11	ELECT (SOLID)	33uF 20% 10V
C175	1-124-902-00	ELECT	0.47uF 20% 50V	C230	1-126-157-11	ELECT	10uF 20% 16V
C176	1-126-157-11	ELECT	10uF 20% 16V	C235	1-163-035-00	CERAMIC CHIP	0.047uF 50V
C177	1-163-031-11	CERAMIC CHIP	0.01uF 50V	C402	1-127-515-11	ELECT (SOLID)	47uF 20% 6.3V
C178	1-126-154-11	ELECT	47uF 20% 6.3V	C403	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C179	1-126-157-11	ELECT	10uF 20% 16V	C404	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C180	1-126-162-11	ELECT	3.3uF 20% 50V	C405	1-126-154-11	ELECT	47uF 20% 6.3V
C181	1-126-301-11	ELECT	1uF 20% 50V	C406	1-126-154-11	ELECT	47uF 20% 6.3V
C182	1-126-154-11	ELECT	47uF 20% 6.3V	C407	1-126-154-11	ELECT	47uF 20% 6.3V
C183	1-126-154-11	ELECT	47uF 20% 6.3V	C408	1-126-154-11	ELECT	47uF 20% 6.3V
C184	1-124-472-11	ELECT	470uF 20% 10V	C413	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C185	1-124-464-11	ELECT	0.22uF 20% 50V	C416	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C186	1-126-154-11	ELECT	47uF 20% 6.3V	C417	1-126-157-11	ELECT	10uF 20% 16V
C187	1-163-031-11	CERAMIC CHIP	0.01uF 50V	C501	1-126-154-11	ELECT	47uF 20% 6.3V
C188	1-163-031-11	CERAMIC CHIP	0.01uF 50V	C502	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C189	1-126-154-11	ELECT	47uF 20% 6.3V	C503	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C190	1-163-031-11	CERAMIC CHIP	0.01uF 50V	C504	1-163-035-00	CERAMIC CHIP	0.047uF 50V
C191	1-163-031-11	CERAMIC CHIP	0.01uF 50V	C506	1-163-127-00	CERAMIC CHIP	270PF 5% 50V
C192	1-163-019-00	CERAMIC CHIP	0.0068uF 10% 50V	C507	1-163-035-00	CERAMIC CHIP	0.047uF 50V
C193	1-124-903-11	ELECT	1uF 20% 50V	C508	1-163-243-11	CERAMIC CHIP	47PF 5% 50V
C194	1-124-254-00	ELECT	0.68uF 20% 50V	C509	1-163-241-11	CERAMIC CHIP	39PF 5% 50V
C195	1-163-037-11	CERAMIC CHIP	0.022uF 10% 25V	C510	1-163-249-11	CERAMIC CHIP	82PF 5% 50V
C196	1-124-503-11	ELECT	1uF 20% 50V	C511	1-163-104-00	CERAMIC CHIP	30PF 5% 50V
C200	1-126-154-11	ELECT	47uF 20% 6.3V	C513	1-163-989-11	CERAMIC CHIP	0.033uF 10% 25V
C201	1-163-031-11	CERAMIC CHIP	0.01uF 50V	C514	1-164-182-11	CERAMIC CHIP	0.0033uF 10% 50V
C202	1-163-031-11	CERAMIC CHIP	0.01uF 50V	C515	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C203	1-163-931-11	CERAMIC CHIP	0.01uF 50V	C516	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C204	1-163-031-11	CERAMIC CHIP	0.01uF 50V	C517	1-126-154-11	ELECT	47uF 20% 6.3V
C205	1-216-295-00	METAL CHIP	0 5% 1/10W	C518	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C206	1-163-997-00	CERAMIC CHIP	15PF 5% 50V	C519	1-163-257-11	CERAMIC CHIP	180PF 5% 50V
C207	1-126-157-11	ELECT	10uF 20% 16V	C520	1-163-137-00	CERAMIC CHIP	680PF 5% 50V
C208	1-163-031-11	CERAMIC CHIP	0.01uF 50V	C521	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C209	1-126-157-11	ELECT	10uF 20% 16V	C523	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C210	1-163-031-11	CERAMIC CHIP	0.01uF 50V	C524	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C212	1-126-154-11	ELECT	47uF 20% 6.3V	C525	1-163-113-00	CERAMIC CHIP	68PF 5% 50V
C214	1-124-638-11	ELECT	22uF 20% 10V	C526	1-163-125-00	CERAMIC CHIP	220PF 5% 50V
C215	1-163-035-00	CERAMIC CHIP	0.047uF 50V	C527	1-163-113-00	CERAMIC CHIP	68PF 5% 50V
C216	1-163-038-00	CERAMIC CHIP	0.1uF 25V	C528	1-163-251-11	CERAMIC CHIP	100PF 5% 50V
C217	1-163-125-00	CERAMIC CHIP	220PF 5% 50V	C529	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C218	1-164-905-11	CERAMIC CHIP	0.47uF 25V	C532	1-126-154-11	ELECT	47uF 20% 6.3V
C219	1-163-121-00	CERAMIC CHIP	150PF 5% 50V	C533	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C220	1-163-121-00	CERAMIC CHIP	150PF 5% 50V	C534	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C221	1-163-263-11	CERAMIC CHIP	330PF 5% 50V	C535	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C222	1-163-131-00	CERAMIC CHIP	390PF 5% 50V	C536	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C223	1-163-031-11	CERAMIC CHIP	0.01uF 50V	C537	1-163-031-11	CERAMIC CHIP	0.01uF 50V

VI-121

Ref. No.	Part No.	Description	Remark
C538	1-163-087-00	CERAMIC CHIP	4PF 50V
C539	1-163-085-00	CERAMIC CHIP	22PF 50V
C540	1-163-227-11	CERAMIC CHIP	10PF 0.5PF 50V
C541	1-163-235-11	CERAMIC CHIP	22PF 5% 50V
C542	1-163-113-00	CERAMIC CHIP	68PF 5% 50V
C543	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C544	1-163-085-00	CERAMIC CHIP	22PF 50V
C545	1-163-227-11	CERAMIC CHIP	10PF 0.5PF 50V
C546	1-163-087-00	CERAMIC CHIP	4PF 50V
C547	1-163-235-11	CERAMIC CHIP	22PF 5% 50V
C551	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C552	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C553	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C554	1-163-038-00	CERAMIC CHIP	0.1uF 25V
C555	1-126-154-11	ELECT	47uF 20% 6.3V
C556	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C557	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C558	1-126-154-11	ELECT	47uF 20% 6.3V
C559	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C560	1-126-154-11	ELECT	47uF 20% 6.3V
C561	1-163-038-00	CERAMIC CHIP	0.1uF 25V
C562	1-163-038-00	CERAMIC CHIP	0.1uF 25V
C563	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C565	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C566	1-163-237-11	CERAMIC CHIP	27PF 5% 50V
C567	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C568	1-163-097-00	CERAMIC CHIP	15PF 5% 50V
C570	1-163-129-00	CERAMIC CHIP	330PF 5% 50V
C601	1-163-109-00	CERAMIC CHIP	47PF 5% 50V
C602	1-163-109-00	CERAMIC CHIP	47PF 5% 50V
C603	1-163-109-00	CERAMIC CHIP	47PF 5% 50V
C604	1-163-109-00	CERAMIC CHIP	47PF 5% 50V
C605	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C606	1-126-157-11	ELECT	10uF 20% 16V
C607	1-163-109-00	CERAMIC CHIP	47PF 5% 50V
C608	1-126-154-11	ELECT	47uF 20% 6.3V
C609	1-126-154-11	ELECT	47uF 20% 6.3V
C610	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C611	1-164-346-11	CERAMIC CHIP	1uF 16V
C612	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C613	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C614	1-126-162-11	ELECT	3.3uF 20% 50V
C615	1-126-162-11	ELECT	3.3uF 20% 50V
C616	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C617	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V
C618	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C619	1-126-162-11	ELECT	3.3uF 20% 50V
C620	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C621	1-163-031-11	CERAMIC CHIP	0.01uF 50V

Ref. No.	Part No.	Description	Remark
C622	1-126-163-11	ELECT	4.7uF 20% 50V
C623	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C624	1-126-154-11	ELECT	47uF 20% 6.3V
C625	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C626	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C627	1-126-154-11	ELECT	47uF 20% 6.3V
C628	1-126-154-11	ELECT	47uF 20% 6.3V
C629	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C630	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C631	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C632	1-163-117-00	CERAMIC CHIP	100PF 5% 50V
C633	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C635	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C638	1-126-154-11	ELECT	47uF 20% 6.3V
C643	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C646	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C648	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C649	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C650	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C651	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C654	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C655	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C656	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C658	1-163-005-11	CERAMIC CHIP	470PF 10% 50V
C659	1-126-163-11	ELECT	4.7uF 20% 50V
C660	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C661	1-126-154-11	ELECT	47uF 20% 6.3V
C662	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C663	1-126-154-11	ELECT	47uF 20% 6.3V
C665	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C666	1-126-154-11	ELECT	47uF 20% 6.3V
C702	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C706	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C709	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C710	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C711	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C712	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C713	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C714	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C715	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C716	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C717	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C719	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C720	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C721	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C722	1-163-113-00	CERAMIC CHIP	68PF 5% 50V
C723	1-163-121-00	CERAMIC CHIP	150PF 5% 50V
C724	1-163-241-11	CERAMIC CHIP	39PF 5% 50V
C725	1-163-121-00	CERAMIC CHIP	150PF 5% 50V

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
C726	1-163-031-11	CERAMIC CHIP	0.01uF	50V	CN602	1-573-848-11	CONNECTOR, BOARD TO BOARD 15P
C727	1-163-031-11	CERAMIC CHIP	0.01uF	50V			< DIODE >
C728	1-126-154-11	ELECT	47uF	20% 6.3V	D101	8-719-104-34	DIODE 1S2836
C729	1-163-038-00	CERAMIC CHIP	0.1uF	25V	D102	8-719-801-78	DIODE 1SS184
C731	1-163-097-00	CERAMIC CHIP	15PF	5% 50V	D104	8-719-801-78	DIODE 1SS184
C732	1-163-031-11	CERAMIC CHIP	0.01uF	50V	D502	8-719-801-78	DIODE 1SS184
C733	1-163-031-11	CERAMIC CHIP	0.01uF	50V	D503	8-719-106-44	DIODE RD9.1M-B2
C734	1-163-031-11	CERAMIC CHIP	0.01uF	50V	D801	8-719-801-78	DIODE 1SS184
C735	1-163-257-11	CERAMIC CHIP	180PF	5% 50V	D801	8-719-801-78	DIODE 1SS184
C736	1-163-243-11	CERAMIC CHIP	47PF	5% 50V	D900	8-719-041-79	DIODE MA721WA-TX
C737	1-163-245-11	CERAMIC CHIP	56PF	5% 50V	D950	8-719-801-78	DIODE 1SS184
C738	1-163-031-11	CERAMIC CHIP	0.01uF	50V			< FERRITE BEAD >
C801	1-163-031-11	CERAMIC CHIP	0.01uF	50V	F8601	1-412-364-11	INDUCTOR 00N
C802	1-163-035-00	CERAMIC CHIP	0.047uF	50V	F8602	1-412-364-11	INDUCTOR 00N
C803	1-126-154-11	ELECT	47uF	20% 6.3V	F8603	1-412-364-11	INDUCTOR 00N
C804	1-163-253-11	CERAMIC CHIP	120PF	5% 50V			< FILTER >
C805	1-163-031-11	CERAMIC CHIP	0.01uF	50V	FL101	1-239-168-11	FILTER, LOW PASS (DE MOD)
C807	1-163-097-00	CERAMIC CHIP	15PF	5% 50V	FL102	1-239-169-21	FILTER, LOW PASS (Y)
C808	1-163-275-11	CERAMIC CHIP	0.001uF	5% 50V	FL103	1-236-774-11	FILTER, LOW PASS (Y)
C809	1-126-163-11	ELECT	4.7uF	20% 50V	FL501	1-409-466-11	TRAP
C810	1-216-295-00	METAL CHIP	0	5% 1/10W	FL502	1-239-171-21	FILTER, CHROMA BAND PASS
C811	1-163-145-00	CERAMIC CHIP	0.0015uF	5% 50V	FL503	1-415-858-11	DELAY LINE
C812	1-163-031-11	CERAMIC CHIP	0.01uF	50V	FL504	1-415-858-11	DELAY LINE
C813	1-124-903-11	ELECT	1uF	20% 50V	FL801	1-239-236-11	ENCAPSULATED COMPONENT
C814	1-163-131-00	CERAMIC CHIP	390PF	5% 50V	FL802	1-239-236-11	ENCAPSULATED COMPONENT
C815	1-124-903-11	ELECT	1uF	20% 50V	FL803	1-239-236-11	ENCAPSULATED COMPONENT
C816	1-163-031-11	CERAMIC CHIP	0.01uF	50V	FL604	1-239-925-11	FILTER, LOW PASS
C817	1-163-031-11	CERAMIC CHIP	0.01uF	50V	FL605	1-239-153-11	FILTER, BAND PASS
C900	1-126-154-11	ELECT	47uF	20% 6.3V			< IC >
C901	1-126-154-11	ELECT	47uF	20% 6.3V	IC103	8-759-711-47	IC NJM2209M
C902	1-126-176-11	ELECT	220uF	20% 10V	IC104	8-759-084-76	IC MM1111XFP
C950	1-126-154-11	ELECT	47uF	20% 6.3V	IC105	8-752-065-88	IC CXA1810Q
C996	1-163-243-11	CERAMIC CHIP	47PF	5% 50V	IC401	8-759-008-10	IC MC140690BF
C997	1-163-245-11	CERAMIC CHIP	56PF	5% 50V	IC402	8-759-009-19	IC MC14081BF
C999	1-163-245-11	CERAMIC CHIP	56PF	5% 50V	IC403	8-759-009-10	IC MC140690BF
		< FILTER >			IC405	8-759-504-46	IC PQ058F1
CF601	1-231-280-00	FILTER CERAMIC (4.43MHz)			IC406	8-759-300-71	IC HD140538FP
		< CONNECTOR >			IC501	8-752-066-68	IC CXA175M
CN101	1-569-338-11	CONNECTOR, BOARD TO BOARD 19P			IC502	8-759-012-00	IC MC10H116M
CN102	1-569-338-11	CONNECTOR, BOARD TO BOARD 19P			IC503	8-759-998-32	IC CXD-2107M
CN103	1-569-338-11	CONNECTOR, BOARD TO BOARD 19P			IC601	8-759-506-97	IC BUS801K
CN104	1-569-338-11	CONNECTOR, BOARD TO BOARD 19P			IC602	8-752-333-24	IC CXL1509M
CN105	1-691-053-21	HOUSING, CONNECTOR 21P			IC603	8-752-334-55	IC CXL1175AM
CN106	1-599-337-11	CONNECTOR, BOARD TO BOARD 11P			IC604	8-752-342-81	IC CXD2105AQ
* CN107	1-891-047-21	HOUSING, CONNECTOR 15P					
* CN108	1-891-047-21	HOUSING, CONNECTOR 15P	(VC, NF, B)				
CN601	1-573-842-11	CONNECTOR, BOARD TO BOARD 10P					

Ref. No.	Part No.	Description	Remark
IC701	8-759-710-07	IC NJM2234M	
IC801	8-759-260-38	IC MS2353FP-708D	
IC802	8-759-084-76	IC MM111XFF	
< JUMPER RESISTOR >			
JR003	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR004	1-216-296-00	METAL CHIP 0 5% 1/8W (VC, NP, B)	
JR005	1-216-296-00	METAL CHIP 0 5% 1/8W (VC, NP, B)	
JR006	1-216-296-00	METAL CHIP 0 5% 1/8W (VC, NP, B)	
JR007	1-216-296-00	METAL CHIP 0 5% 1/8W (VC, NP, B)	
JR008	1-216-296-00	METAL CHIP 0 5% 1/8W (VC, NP, B)	
< COIL >			
L101	1-408-982-11	INDUCTOR 100uH	
L102	1-408-987-21	INDUCTOR 5.6uH	
L103	1-408-970-21	INDUCTOR 10uH	
L104	1-410-390-11	INDUCTOR CHIP 56uH	
L105	1-410-390-11	INDUCTOR CHIP 56uH	
L106	1-410-388-31	INDUCTOR CHIP 39uH	
L107	1-410-386-11	INDUCTOR CHIP 27uH	
L108	1-410-391-11	INDUCTOR CHIP 68uH	
L109	1-408-982-11	INDUCTOR 100uH	
L110	1-410-381-11	INDUCTOR CHIP 10uH	
L111	1-408-982-11	INDUCTOR 100uH	
L112	1-408-982-11	INDUCTOR 100uH	
L113	1-410-393-11	INDUCTOR CHIP 100uH	
L114	1-408-982-11	INDUCTOR 100uH	
L115	1-408-970-21	INDUCTOR 10uH	
L117	1-410-388-31	INDUCTOR CHIP 39uH	
L118	1-410-390-11	INDUCTOR CHIP 56uH	
L119	1-408-948-00	INDUCTOR 220uH	
L120	1-408-981-21	INDUCTOR 82uH	
L121	1-408-978-21	INDUCTOR 56uH	
L122	1-410-388-31	INDUCTOR CHIP 39uH	
L124	1-408-982-11	INDUCTOR 100uH	
L125	1-408-982-11	INDUCTOR 100uH	
L127	1-410-398-11	INDUCTOR CHIP 27uH	
L128	1-410-393-31	INDUCTOR CHIP 15uH	
L401	1-408-982-11	INDUCTOR 100uH	
L501	1-408-982-11	INDUCTOR 100uH	
L503	1-408-985-21	INDUCTOR 180uH	
L504	1-408-968-21	INDUCTOR 6.8uH	
L505	1-408-963-11	INDUCTOR 2.7uH	
L506	1-408-973-21	INDUCTOR 18uH	
L507	1-408-973-21	INDUCTOR 18uH	
L508	1-408-982-11	INDUCTOR 100uH	
L509	1-408-982-11	INDUCTOR 100uH	
L510	1-408-985-21	INDUCTOR 270uH	

Ref. No.	Part No.	Description	Remark
L511	1-408-984-21	INDUCTOR 150uH	
L512	1-408-984-21	INDUCTOR 150uH	
L513	1-408-982-11	INDUCTOR 100uH	
L515	1-408-972-21	INDUCTOR 15uH	
L516	1-408-970-21	INDUCTOR 10uH	
L518	1-408-982-11	INDUCTOR 100uH	
L519	1-408-982-11	INDUCTOR 100uH	
L520	1-408-967-21	INDUCTOR 5.6uH	
L521	1-408-972-21	INDUCTOR 15uH	
L522	1-408-970-21	INDUCTOR 10uH	
L523	1-408-985-21	INDUCTOR 180uH	
L601	1-408-982-11	INDUCTOR 100uH	
L602	1-408-979-21	INDUCTOR 47uH	
L705	1-408-984-21	INDUCTOR 150uH	
L706	1-408-948-00	INDUCTOR 220uH	
L707	1-408-987-21	INDUCTOR 330uH	
L708	1-408-982-11	INDUCTOR 100uH	
L710	1-408-987-21	INDUCTOR 330uH	
L711	1-408-983-21	INDUCTOR 120uH	
< TRANSISTOR >			
Q004	8-729-901-01	TRANSISTOR 6TC144EK	
Q005	8-729-901-01	TRANSISTOR 6TC144EK	
Q100	8-729-010-25	TRANSISTOR MSD601-RT1	
Q101	8-729-010-25	TRANSISTOR MSD601-RT1	
Q102	8-729-010-05	TRANSISTOR MSB709-RT1	
Q103	8-729-010-25	TRANSISTOR MSD601-RT1	
Q104	8-729-010-25	TRANSISTOR MSD601-RT1	
Q105	8-729-102-07	TRANSISTOR ZSC2223-F13	
Q106	8-729-010-25	TRANSISTOR MSD601-RT1	
Q107	8-729-010-25	TRANSISTOR MSD601-RT1	
Q109	8-729-010-25	TRANSISTOR MSD601-RT1	
Q110	8-729-010-25	TRANSISTOR MSD601-RT1	
Q111	8-729-901-06	TRANSISTOR 6TA144EK	
Q112	8-729-010-25	TRANSISTOR MSD601-RT1	
Q113	8-729-010-25	TRANSISTOR MSD601-RT1	
Q114	8-729-010-25	TRANSISTOR MSD601-RT1	
Q115	8-729-010-25	TRANSISTOR MSD601-RT1	
Q116	8-729-901-01	TRANSISTOR 6TC144EK	
Q118	8-729-010-25	TRANSISTOR MSD601-RT1	
Q119	8-729-010-05	TRANSISTOR MSB709-RT1	
Q120	8-729-010-25	TRANSISTOR MSD601-RT1	
Q121	8-729-010-25	TRANSISTOR MSD601-RT1	
Q122	8-729-901-01	TRANSISTOR 6TC144EK	
Q123	8-729-010-25	TRANSISTOR MSD601-RT1	
Q124	8-729-102-07	TRANSISTOR ZSC2223-F13	
Q125	8-729-102-07	TRANSISTOR ZSC2223-F13	
Q127	8-729-010-25	TRANSISTOR MSD601-RT1	
Q128	8-729-010-25	TRANSISTOR MSD601-RT1	

VI-121

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark	
Q706	8-729-102-07	TRANSISTOR	2SC2223-F13	R115	1-216-037-00	METAL CHIP	330 5% 1/10W	
Q707	8-729-010-25	TRANSISTOR	MSD601-RT1	R116	1-216-041-00	METAL CHIP	470 5% 1/10W	
Q708	8-729-901-01	TRANSISTOR	DTA144EK	R118	1-216-073-00	METAL CHIP	10K 5% 1/10W	
Q709	8-729-901-06	TRANSISTOR	DTA144EK	R119	1-216-065-00	METAL CHIP	4.7K 5% 1/10W	
Q711	8-729-010-25	TRANSISTOR	MSD601-RT1	R120	1-216-085-00	METAL CHIP	33K 5% 1/10W	
Q712	8-729-901-01	TRANSISTOR	DTA144EK	R121	1-216-081-00	METAL CHIP	22K 5% 1/10W	
Q713	8-729-010-05	TRANSISTOR	MSB709-RT1	R122	1-216-047-00	METAL CHIP	820 5% 1/10W	
Q714	8-729-010-25	TRANSISTOR	MSD601-RT1	R123	1-216-037-00	METAL CHIP	330 5% 1/10W	
Q715	8-729-901-01	TRANSISTOR	DTA144EK	R124	1-216-043-00	METAL CHIP	560 5% 1/10W	
Q716	8-729-010-25	TRANSISTOR	MSD601-RT1	R125	1-216-073-00	METAL CHIP	10K 5% 1/10W	
Q717	8-729-010-25	TRANSISTOR	MSD601-RT1	R126	1-216-025-00	METAL CHIP	100 5% 1/10W	
Q718	8-729-010-25	TRANSISTOR	MSD601-RT1	R127	1-216-073-00	METAL CHIP	10K 5% 1/10W	
Q719	8-729-010-25	TRANSISTOR	MSD601-RT1	R128	1-216-073-00	METAL CHIP	10K 5% 1/10W	
Q720	8-729-010-25	TRANSISTOR	MSD601-RT1	R129	1-216-073-00	METAL CHIP	10K 5% 1/10W	
Q722	8-729-010-25	TRANSISTOR	MSD601-RT1	R130	1-216-073-00	METAL CHIP	10K 5% 1/10W	
Q801	8-729-901-06	TRANSISTOR	DTA144EK	R131	1-216-047-00	METAL CHIP	820 5% 1/10W	
Q802	8-729-901-01	TRANSISTOR	DTA144EK	R132	1-216-047-00	METAL CHIP	820 5% 1/10W	
Q804	8-729-420-12	TRANSISTOR	XM421J	R133	1-216-065-00	METAL CHIP	4.7K 5% 1/10W	
Q805	8-729-420-20	TRANSISTOR	XM431Z	R134	1-216-046-00	METAL CHIP	750 5% 1/10W	
Q900	8-729-901-01	TRANSISTOR	DTA144EK	R135	1-216-041-00	METAL CHIP	470 5% 1/10W	
Q901	8-729-901-01	TRANSISTOR	DTA144EK	(VC, NP, B)	R136	1-216-069-00	METAL CHIP	6.8K 5% 1/10W
Q901	8-729-010-25	TRANSISTOR	MSD601-RT1	(AE, UB)	R137	1-216-028-00	METAL CHIP	150 5% 1/10W
Q902	8-729-010-25	TRANSISTOR	MSD601-RT1		R138	1-216-077-00	METAL CHIP	15K 5% 1/10W
Q903	8-729-901-01	TRANSISTOR	DTA144EK		R139	1-216-049-00	METAL CHIP	1K 5% 1/10W
Q904	8-729-901-01	TRANSISTOR	DTA144EK	(VC, NP, B)	R140	1-216-049-00	METAL CHIP	1K 5% 1/10W
Q904	8-729-010-25	TRANSISTOR	MSD601-RT1	(AE, UB)	R141	1-216-049-00	METAL CHIP	1K 5% 1/10W
Q905	8-729-901-01	TRANSISTOR	DTA144EK		R142	1-216-049-00	METAL CHIP	1K 5% 1/10W
Q950	8-729-901-01	TRANSISTOR	DTA144EK		R143	1-216-063-00	METAL CHIP	3.9K 5% 1/10W
Q951	8-729-901-06	TRANSISTOR	DTA144EK		R144	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
Q952	8-729-901-01	TRANSISTOR	DTA144EK		R145	1-216-049-00	METAL CHIP	1K 5% 1/10W
Q996	8-729-901-01	TRANSISTOR	DTA144EK		R146	1-216-085-00	METAL CHIP	33K 5% 1/10W
Q998	8-729-901-01	TRANSISTOR	DTA144EK		R147	1-216-031-00	METAL CHIP	56K 5% 1/10W
Q999	8-729-901-01	TRANSISTOR	DTA144EK		R148	1-216-041-00	METAL CHIP	470 5% 1/10W
< RESISTOR >				R149	1-216-049-00	METAL CHIP	1K 5% 1/10W	
R072	1-216-073-00	METAL CHIP	10K 5% 1/10W	R150	1-216-049-00	METAL CHIP	1K 5% 1/10W	
R102	1-216-085-00	METAL CHIP	33K 5% 1/10W	R151	1-216-057-00	METAL CHIP	2.2K 5% 1/10W	
R103	1-216-049-00	METAL CHIP	1K 5% 1/10W	R152	1-216-057-00	METAL CHIP	2.2K 5% 1/10W	
R104	1-216-061-00	METAL CHIP	3.3K 5% 1/10W	R153	1-216-049-00	METAL CHIP	1K 5% 1/10W	
R105	1-216-059-00	METAL CHIP	2.7K 5% 1/10W	R154	1-216-049-00	METAL CHIP	1K 5% 1/10W	
R106	1-216-041-00	METAL CHIP	470 5% 1/10W	R155	1-216-057-00	METAL CHIP	2.2K 5% 1/10W	
R107	1-216-039-00	METAL CHIP	390 5% 1/10W	R156	1-216-027-00	METAL CHIP	120 5% 1/10W	
R108	1-216-031-00	METAL CHIP	180 5% 1/10W	R157	1-216-081-00	METAL CHIP	22K 5% 1/10W	
R109	1-216-039-00	METAL CHIP	390 5% 1/10W	R158	1-216-081-00	METAL CHIP	22K 5% 1/10W	
R110	1-216-039-00	METAL CHIP	390 5% 1/10W	R159	1-216-049-00	METAL CHIP	1K 5% 1/10W	
R111	1-216-069-00	METAL CHIP	6.8K 5% 1/10W	R160	1-216-065-00	METAL CHIP	4.7K 5% 1/10W	
R112	1-216-041-00	METAL CHIP	470 5% 1/10W	R161	1-216-049-00	METAL CHIP	1K 5% 1/10W	
R113	1-216-047-00	METAL CHIP	820 5% 1/10W	R162	1-216-035-00	METAL CHIP	270 5% 1/10W	
R114	1-216-041-00	METAL CHIP	470 5% 1/10W	R163	1-216-039-00	METAL CHIP	390 5% 1/10W	
				R164	1-216-041-00	METAL CHIP	470 5% 1/10W	

Ref. No.	Part No.	Description	Remark
R165	1-216-043-00	METAL CHIP	560 5% 1/10W
R167	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
R168	1-216-295-00	METAL CHIP	0 5% 1/10W
R169	1-216-025-00	METAL CHIP	100 5% 1/10W
R170	1-216-073-00	METAL CHIP	10K 5% 1/10W
R171	1-216-073-00	METAL CHIP	10K 5% 1/10W
R172	1-216-041-00	METAL CHIP	470 5% 1/10W
R173	1-216-049-00	METAL CHIP	1K 5% 1/10W
R174	1-216-049-00	METAL CHIP	1K 5% 1/10W
R175	1-216-073-00	METAL CHIP	10K 5% 1/10W
R176	1-216-035-00	METAL CHIP	270 5% 1/10W
R177	1-216-041-00	METAL CHIP	470 5% 1/10W
R178	1-216-043-00	METAL CHIP	560 5% 1/10W
R179	1-216-049-00	METAL CHIP	1K 5% 1/10W
R180	1-216-045-00	METAL CHIP	680 5% 1/10W
R181	1-216-295-00	METAL CHIP	0 5% 1/10W
R182	1-216-073-00	METAL CHIP	10K 5% 1/10W
R183	1-216-073-00	METAL CHIP	10K 5% 1/10W
R184	1-216-073-00	METAL CHIP	10K 5% 1/10W
R186	1-216-069-00	METAL CHIP	2.7K 5% 1/10W
R187	1-216-067-00	METAL CHIP	5.6K 5% 1/10W
R188	1-216-065-00	METAL CHIP	4.7K 5% 1/10W
R189	1-216-023-00	METAL CHIP	150 5% 1/10W
R190	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
R191	1-216-073-00	METAL CHIP	10K 5% 1/10W
R192	1-216-053-00	METAL CHIP	1.5K 5% 1/10W
R193	1-216-039-00	METAL CHIP	390 5% 1/10W
R195	1-216-041-00	METAL CHIP	470 5% 1/10W
R196	1-216-029-00	METAL CHIP	150 5% 1/10W
R197	1-216-031-00	METAL CHIP	180 5% 1/10W
R198	1-216-049-00	METAL CHIP	1K 5% 1/10W (AE, UB)
R199	1-216-049-00	METAL CHIP	1K 5% 1/10W (VC, NP, B)
R200	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
R201	1-216-069-00	METAL CHIP	6.8K 5% 1/10W
R202	1-216-043-00	METAL CHIP	560 5% 1/10W
R203	1-216-073-00	METAL CHIP	10K 5% 1/10W
R204	1-216-073-00	METAL CHIP	10K 5% 1/10W
R205	1-216-049-00	METAL CHIP	1K 5% 1/10W
R207	1-216-035-00	METAL CHIP	270 5% 1/10W
R208	1-216-073-00	METAL CHIP	10K 5% 1/10W
R209	1-216-073-00	METAL CHIP	10K 5% 1/10W
R210	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R211	1-216-085-00	METAL CHIP	33K 5% 1/10W
R212	1-216-049-00	METAL CHIP	1K 5% 1/10W
R214	1-216-073-00	METAL CHIP	10K 5% 1/10W (VC)
R215	1-216-073-00	METAL CHIP	10K 5% 1/10W
R216	1-216-077-00	METAL CHIP	15K 5% 1/10W
R217	1-216-295-00	METAL CHIP	0 5% 1/10W
R218	1-216-073-00	METAL CHIP	10K 5% 1/10W

Ref. No.	Part No.	Description	Remark
R219	1-216-085-00	METAL CHIP	33K 5% 1/10W
R220	1-216-077-00	METAL CHIP	15K 5% 1/10W
R221	1-216-049-00	METAL CHIP	1K 5% 1/10W
R222	1-216-790-11	METAL CHIP	220K 0.50K 1/10W
R223	1-216-999-11	METAL CHIP	100K 0.5K 1/10W
R224	1-216-685-11	METAL CHIP	27K 0.5K 1/10W
R225	1-216-681-11	METAL CHIP	18K 0.5K 1/10W
R226	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
R227	1-216-049-00	METAL CHIP	1K 5% 1/10W
R228	1-216-073-00	METAL CHIP	10K 5% 1/10W
R229	1-216-077-00	METAL CHIP	15K 5% 1/10W
R230	1-216-047-00	METAL CHIP	820 5% 1/10W
R231	1-216-041-00	METAL CHIP	470 5% 1/10W
R233	1-216-050-00	METAL GLAZE	1.1K 5% 1/10W
R234	1-216-047-00	METAL CHIP	820 5% 1/10W
R236	1-216-049-00	METAL CHIP	1K 5% 1/10W
R237	1-216-295-00	METAL CHIP	0 5% 1/10W
R238	1-216-059-00	METAL CHIP	2.7K 5% 1/10W
R239	1-216-049-00	METAL CHIP	1K 5% 1/10W
R241	1-216-075-00	METAL CHIP	12K 5% 1/10W
R242	1-216-295-00	METAL CHIP	0 5% 1/10W
R243	1-216-075-00	METAL CHIP	12K 5% 1/10W
R244	1-216-049-00	METAL CHIP	1K 5% 1/10W
R245	1-216-079-00	METAL CHIP	18K 5% 1/10W
R246	1-216-085-00	METAL CHIP	33K 5% 1/10W
R247	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R248	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R249	1-216-295-00	METAL CHIP	0 5% 1/10W
R250	1-216-075-00	METAL CHIP	12K 5% 1/10W
R251	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R252	1-216-295-00	METAL CHIP	0 5% 1/10W
R253	1-216-075-00	METAL CHIP	12K 5% 1/10W
R254	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R255	1-216-063-00	METAL CHIP	3.9K 5% 1/10W
R256	1-216-067-00	METAL CHIP	5.6K 5% 1/10W
R257	1-216-079-00	METAL CHIP	18K 5% 1/10W
R258	1-216-045-00	METAL CHIP	680 5% 1/10W
R259	1-216-049-00	METAL CHIP	1K 5% 1/10W
R260	1-216-073-00	METAL CHIP	10K 5% 1/10W
R261	1-216-073-00	METAL CHIP	10K 5% 1/10W
R262	1-216-073-00	METAL CHIP	10K 5% 1/10W
R263	1-216-295-00	METAL CHIP	0 5% 1/10W
R264	1-216-295-00	METAL CHIP	0 5% 1/10W
R267	1-216-073-00	METAL CHIP	10K 5% 1/10W
R268	1-216-049-00	METAL CHIP	1K 5% 1/10W
R269	1-216-051-00	METAL CHIP	1.2K 5% 1/10W
R270	1-216-641-11	METAL CHIP	390 0.5K 1/10W
R271	1-216-643-11	METAL CHIP	470 0.5K 1/10W
R272	1-216-049-00	METAL CHIP	1K 5% 1/10W

VI-121

Ref. No.	Part No.	Description	Remark		
R273	1-216-063-00	METAL CHIP	3.9K	5%	1/10W
R274	1-216-663-11	METAL CHIP	3.3K	0.5%	1/10W
R275	1-216-653-11	METAL CHIP	1.2K	0.5%	1/10W
R276	1-216-295-00	METAL CHIP	0	5%	1/10W
R277	1-216-073-00	METAL CHIP	10K	5%	1/10W
R278	1-216-073-00	METAL CHIP	10K	5%	1/10W
R279	1-216-049-00	METAL CHIP	1K	5%	1/10W
R280	1-216-073-00	METAL CHIP	10K	5%	1/10W
R281	1-216-073-00	METAL CHIP	10K	5%	1/10W
R282	1-216-081-00	METAL CHIP	22K	5%	1/10W
R283	1-216-077-00	METAL CHIP	15K	5%	1/10W
R284	1-216-049-00	METAL CHIP	750	5%	1/10W
R285	1-216-043-00	METAL CHIP	560	5%	1/10W
R286	1-216-037-00	METAL CHIP	330	5%	1/10W
R287	1-216-049-00	METAL CHIP	1K	5%	1/10W
R288	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R289	1-216-049-00	METAL CHIP	1K	5%	1/10W
R290	1-216-049-00	METAL CHIP	1K	5%	1/10W
R291	1-216-063-00	METAL CHIP	3.9K	5%	1/10W
R297	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R298	1-216-097-00	METAL CHIP	100K	5%	1/10W
R299	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R301	1-216-295-00	METAL CHIP	0	5%	1/10W
R302	1-216-295-00	METAL CHIP	0	5%	1/10W
R305	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R306	1-216-049-00	METAL CHIP	1K	5%	1/10W
R307	1-216-047-00	METAL CHIP	820	5%	1/10W
R308	1-216-049-00	METAL CHIP	1K	5%	1/10W
R309	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R310	1-216-295-00	METAL CHIP	0	5%	1/10W
R311	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R401	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R404	1-216-295-00	METAL CHIP	0	5%	1/10W
R405	1-216-295-00	METAL CHIP	0	5%	1/10W (AE, UB)
R407	1-183-031-11	CERAMIC CHIP	0.01M ²		50V
R408	1-216-073-00	METAL CHIP	10K	5%	1/10W
R409	1-216-081-00	METAL CHIP	22K	5%	1/10W
R410	1-216-049-00	METAL CHIP	1K	5%	1/10W
R411	1-216-081-00	METAL CHIP	22K	5%	1/10W
R412	1-216-049-00	METAL CHIP	1K	5%	1/10W
R501	1-216-085-00	METAL CHIP	33K	5%	1/10W
R502	1-216-077-00	METAL CHIP	15K	5%	1/10W
R503	1-216-043-00	METAL CHIP	560	5%	1/10W
R504	1-216-039-00	METAL CHIP	390	5%	1/10W
R505	1-216-041-00	METAL CHIP	470	5%	1/10W
R506	1-216-049-00	METAL CHIP	1K	5%	1/10W
R507	1-216-049-00	METAL CHIP	1K	5%	1/10W
R508	1-216-073-00	METAL CHIP	10K	5%	1/10W
R509	1-216-043-00	METAL CHIP	560	5%	1/10W

Ref. No.	Part No.	Description	Remark		
R510	1-216-073-00	METAL CHIP	10K	5%	1/10W
R511	1-216-043-00	METAL CHIP	560	5%	1/10W
R512	1-216-049-00	METAL CHIP	1K	5%	1/10W
R513	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R514	1-216-051-00	METAL CHIP	1.2K	5%	1/10W
R515	1-216-081-00	METAL CHIP	22K	5%	1/10W
R516	1-216-081-00	METAL CHIP	22K	5%	1/10W
R517	1-216-037-00	METAL CHIP	330	5%	1/10W
R518	1-216-041-00	METAL CHIP	470	5%	1/10W
R519	1-216-041-00	METAL CHIP	470	5%	1/10W
R520	1-216-037-00	METAL CHIP	330	5%	1/10W
R521	1-216-041-00	METAL CHIP	470	5%	1/10W
R522	1-216-041-00	METAL CHIP	470	5%	1/10W
R523	1-216-768-11	METAL CHIP	470K	0.5%	1/10W
R524	1-216-695-11	METAL CHIP	68K	0.5%	1/10W
R525	1-216-077-00	METAL CHIP	15K	5%	1/10W
R526	1-216-683-11	METAL CHIP	22K	0.5%	1/10W
R527	1-216-041-00	METAL CHIP	470	5%	1/10W
R528	1-216-073-00	METAL CHIP	10K	5%	1/10W
R529	1-216-073-00	METAL CHIP	10K	5%	1/10W
R530	1-216-043-00	METAL CHIP	560	5%	1/10W
R531	1-216-043-00	METAL CHIP	560	5%	1/10W
R532	1-216-068-00	METAL CHIP	6.2K	5%	1/10W
R533	1-216-043-00	METAL CHIP	560	5%	1/10W
R534	1-216-047-00	METAL CHIP	820	5%	1/10W
R535	1-216-064-00	METAL GLAZE	1.6K	5%	1/10W
R536	1-216-064-00	METAL GLAZE	1.6K	5%	1/10W
R537	1-216-049-00	METAL CHIP	1K	5%	1/10W
R538	1-216-049-00	METAL CHIP	1K	5%	1/10W
R539	1-216-033-00	METAL CHIP	220	5%	1/10W
R540	1-216-049-00	METAL CHIP	1K	5%	1/10W
R541	1-216-049-00	METAL CHIP	1K	5%	1/10W
R542	1-216-295-00	METAL CHIP	0	5%	1/10W
R546	1-216-073-00	METAL CHIP	10K	5%	1/10W
R547	1-216-049-00	METAL CHIP	1K	5%	1/10W
R550	1-216-754-11	METAL CHIP	120K	0.5%	1/10W
R551	1-216-041-00	METAL CHIP	470	5%	1/10W
R552	1-216-041-00	METAL CHIP	470	5%	1/10W
R553	1-216-051-00	METAL CHIP	1.2K	5%	1/10W
R555	1-216-049-00	METAL CHIP	1K	5%	1/10W
R556	1-216-041-00	METAL CHIP	470	5%	1/10W
R557	1-216-041-00	METAL CHIP	470	5%	1/10W
R558	1-216-081-00	METAL CHIP	22K	5%	1/10W
R559	1-216-047-00	METAL CHIP	820	5%	1/10W
R560	1-216-049-00	METAL CHIP	1K	5%	1/10W
R561	1-216-035-00	METAL CHIP	270	5%	1/10W
R562	1-216-049-00	METAL CHIP	1K	5%	1/10W
R563	1-216-049-00	METAL CHIP	1K	5%	1/10W
R564	1-216-295-00	METAL CHIP	0	5%	1/10W

Ref. No.	Part No.	Description	Remark		
R565	1-216-049-00	METAL CHIP	1K	5%	1/10W
R566	1-216-049-00	METAL CHIP	1K	5%	1/10W
R567	1-216-037-00	METAL CHIP	330	5%	1/10W
R568	1-216-045-00	METAL CHIP	680	5%	1/10W
R569	1-216-073-00	METAL CHIP	10K	5%	1/10W
R570	1-216-049-00	METAL CHIP	1K	5%	1/10W
R572	1-216-085-00	METAL CHIP	33K	5%	1/10W
R573	1-216-081-00	METAL CHIP	22K	5%	1/10W
R574	1-216-049-00	METAL CHIP	1K	5%	1/10W
R575	1-216-045-00	METAL CHIP	680	5%	1/10W
R576	1-216-049-00	METAL CHIP	1K	5%	1/10W
R578	1-216-051-00	METAL CHIP	1.2K	5%	1/10W
R580	1-216-041-00	METAL CHIP	470	5%	1/10W
R581	1-216-041-00	METAL CHIP	470	5%	1/10W
R582	1-216-295-00	METAL CHIP	0	5%	1/10W
R586	1-216-645-11	METAL CHIP	560	0.5%	1/10W
R587	1-216-645-11	METAL CHIP	560	0.5%	1/10W
R588	1-216-049-00	METAL CHIP	1K	5%	1/10W
R589	1-216-045-00	METAL CHIP	680	5%	1/10W
R590	1-216-025-00	METAL CHIP	100	5%	1/10W
R591	1-216-045-00	METAL CHIP	680	5%	1/10W
R592	1-216-025-00	METAL CHIP	100	5%	1/10W
R593	1-216-049-00	METAL CHIP	1K	5%	1/10W
R594	1-216-073-00	METAL CHIP	10K	5%	1/10W
R595	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R596	1-216-081-00	METAL CHIP	22K	5%	1/10W
R597	1-216-025-00	METAL CHIP	100	5%	1/10W
R598	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R599	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R602	1-216-073-00	METAL CHIP	10K	5%	1/10W
R603	1-216-081-00	METAL CHIP	22K	5%	1/10W
R604	1-216-121-00	METAL CHIP	1M	5%	1/10W
R606	1-216-049-00	METAL CHIP	1K	5%	1/10W
R607	1-216-049-00	METAL CHIP	1K	5%	1/10W
R608	1-216-049-00	METAL CHIP	1K	5%	1/10W
R609	1-216-033-00	METAL CHIP	220	5%	1/10W
R610	1-216-043-00	METAL CHIP	590	5%	1/10W
R611	1-216-095-00	METAL CHIP	82K	5%	1/10W
R612	1-216-027-00	METAL CHIP	120	5%	1/10W
R613	1-216-041-00	METAL CHIP	470	5%	1/10W
R614	1-216-295-00	METAL CHIP	0	5%	1/10W
R615	1-216-081-00	METAL CHIP	22K	5%	1/10W
R616	1-216-081-00	METAL CHIP	22K	5%	1/10W
R617	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R618	1-216-013-00	METAL CHIP	33	5%	1/10W
R619	1-216-049-00	METAL CHIP	1K	5%	1/10W
R620	1-216-041-00	METAL CHIP	470	5%	1/10W
R622	1-216-049-00	METAL CHIP	1K	5%	1/10W
R623	1-216-041-00	METAL CHIP	470	5%	1/10W

Ref. No.	Part No.	Description	Remark		
R624	1-216-049-00	METAL CHIP	1K	5%	1/10W
R625	1-216-049-00	METAL CHIP	1K	5%	1/10W
R626	1-216-049-00	METAL CHIP	1K	5%	1/10W
R627	1-216-295-00	METAL CHIP	0	5%	1/10W
R630	1-216-295-00	METAL CHIP	0	5%	1/10W
R631	1-216-025-00	METAL CHIP	100	5%	1/10W
R632	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R633	1-216-025-00	METAL CHIP	100	5%	1/10W
R634	1-216-049-00	METAL CHIP	1K	5%	1/10W
R635	1-216-049-00	METAL CHIP	1K	5%	1/10W
R636	1-216-045-00	METAL CHIP	580	5%	1/10W
R637	1-216-041-00	METAL CHIP	470	5%	1/10W
R640	1-216-033-00	METAL CHIP	10K	5%	1/10W
R657	1-216-033-00	METAL CHIP	220	5%	1/10W
R660	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R666	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R668	1-216-061-00	METAL CHIP	22K	5%	1/10W
R669	1-216-033-00	METAL CHIP	220	5%	1/10W
R670	1-216-295-00	METAL CHIP	0	5%	1/10W
R671	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R672	1-216-295-00	METAL CHIP	0	5%	1/10W
R673	1-216-061-00	METAL CHIP	22K	5%	1/10W
R674	1-216-035-00	METAL CHIP	270	5%	1/10W
R676	1-216-121-00	METAL CHIP	1M	5%	1/10W
R677	1-216-295-00	METAL CHIP	0	5%	1/10W
R680	1-216-295-00	METAL CHIP	0	5%	1/10W
R682	1-216-049-00	METAL CHIP	1K	5%	1/10W
R683	1-216-049-00	METAL CHIP	1K	5%	1/10W
R684	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R685	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R686	1-216-041-00	METAL CHIP	470	5%	1/10W
R687	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R701	1-216-043-00	METAL CHIP	560	5%	1/10W
R702	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R703	1-216-043-00	METAL CHIP	560	5%	1/10W
R704	1-216-043-00	METAL CHIP	560	5%	1/10W
R705	1-216-073-00	METAL CHIP	10K	5%	1/10W
R706	1-216-073-00	METAL CHIP	10K	5%	1/10W
R712	1-216-049-00	METAL CHIP	1K	5%	1/10W
R713	1-216-073-00	METAL CHIP	10K	5%	1/10W
R714	1-216-073-00	METAL CHIP	10K	5%	1/10W
R715	1-216-038-00	METAL CHIP	390	5%	1/10W
R716	1-216-047-00	METAL CHIP	820	5%	1/10W
R717	1-216-049-00	METAL CHIP	1K	5%	1/10W
R718	1-216-027-00	METAL CHIP	120	5%	1/10W
R719	1-216-043-00	METAL CHIP	560	5%	1/10W
R720	1-216-025-00	METAL CHIP	100	5%	1/10W
R721	1-216-041-00	METAL CHIP	470	5%	1/10W
R722	1-216-049-00	METAL CHIP	1K	5%	1/10W

Ref. No.	Part No.	Description	Remark
R723	1-216-077-00	METAL CHIP	15K 5% 1/10W
R724	1-216-079-00	METAL CHIP	10K 5% 1/10W
R725	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
R726	1-216-053-00	METAL CHIP	1.5K 5% 1/10W
R728	1-216-049-00	METAL CHIP	1K 5% 1/10W
R729	1-216-295-00	METAL CHIP	0 5% 1/10W
R730	1-216-047-00	METAL CHIP	820 5% 1/10W
R731	1-216-069-00	METAL CHIP	6.8K 5% 1/10W
R732	1-216-049-00	METAL CHIP	1K 5% 1/10W
R733	1-216-077-00	METAL CHIP	15K 5% 1/10W
R734	1-216-060-00	METAL GLAZE	3K 5% 1/10W
R735	1-216-035-00	METAL CHIP	270 5% 1/10W
R736	1-216-035-00	METAL CHIP	270 5% 1/10W
R737	1-216-043-00	METAL CHIP	560 5% 1/10W
R738	1-216-043-00	METAL CHIP	560 5% 1/10W
R739	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
R740	1-216-041-00	METAL CHIP	470 5% 1/10W
R741	1-216-065-00	METAL CHIP	4.7K 5% 1/10W
R742	1-216-073-00	METAL CHIP	10K 5% 1/10W
R743	1-216-073-00	METAL CHIP	10K 5% 1/10W
R744	1-216-081-00	METAL CHIP	22K 5% 1/10W
R745	1-216-083-00	METAL CHIP	27K 5% 1/10W
R746	1-216-065-00	METAL CHIP	4.7K 5% 1/10W
R747	1-216-049-00	METAL CHIP	1K 5% 1/10W
R748	1-216-023-00	METAL CHIP	82 5% 1/10W
R749	1-216-043-00	METAL CHIP	560 5% 1/10W
R750	1-216-025-00	METAL CHIP	100 5% 1/10W
R751	1-216-037-00	METAL CHIP	330 5% 1/10W
R752	1-216-041-00	METAL CHIP	470 5% 1/10W
R753	1-216-041-00	METAL CHIP	470 5% 1/10W
R754	1-216-073-00	METAL CHIP	10K 5% 1/10W
R755	1-216-073-00	METAL CHIP	10K 5% 1/10W
R756	1-216-081-00	METAL CHIP	22K 5% 1/10W
R757	1-216-085-00	METAL CHIP	33K 5% 1/10W
R758	1-216-049-00	METAL CHIP	1K 5% 1/10W
R759	1-216-069-00	METAL CHIP	6.8K 5% 1/10W
R760	1-216-081-00	METAL CHIP	22K 5% 1/10W
R761	1-216-065-00	METAL CHIP	4.7K 5% 1/10W
R762	1-216-043-00	METAL CHIP	560 5% 1/10W
R764	1-216-043-00	METAL CHIP	560 5% 1/10W
R765	1-216-049-00	METAL CHIP	1K 5% 1/10W
R766	1-216-073-00	METAL CHIP	10K 5% 1/10W
R767	1-216-073-00	METAL CHIP	10K 5% 1/10W
R780	1-216-295-00	METAL CHIP	0 5% 1/10W
R782	1-216-073-00	METAL CHIP	10K 5% 1/10W
R783	1-216-295-00	METAL CHIP	0 5% 1/10W
R801	1-216-295-00	METAL CHIP	0 5% 1/10W (AE UB)
R804	1-216-688-11	METAL CHIP	39K 0.5% 1/10W
R805	1-216-678-11	METAL CHIP	15K 0.5% 1/10W

Ref. No.	Part No.	Description	Remark
R806	1-216-285-00	METAL CHIP	0 5% 1/10W
R809	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
R810	1-216-085-00	METAL CHIP	4.7K 5% 1/10W
R811	1-216-088-01	METAL GLAZE	47K 5% 1/10W
R812	1-216-698-11	METAL CHIP	51K 0.5% 1/10W
R813	1-216-081-00	METAL CHIP	3.3K 5% 1/10W
R819	1-216-285-00	METAL CHIP	0 5% 1/10W
R820	1-216-049-00	METAL CHIP	1K 5% 1/10W
R850	1-216-285-00	METAL CHIP	0 5% 1/10W
R900	1-808-354-11	THERMISTOR	NTC (2125)
R901	1-216-041-00	METAL CHIP	470 5% 1/10W
R902	1-216-073-00	METAL CHIP	10K 5% 1/10W
R903	1-216-776-11	METAL CHIP	1M 0.5% 1/10W
R904	1-216-041-00	METAL CHIP	470 5% 1/10W
R905	1-216-081-00	METAL CHIP	22K 5% 1/10W
R950	1-216-037-00	METAL CHIP	330 5% 1/10W
R951	1-216-073-00	METAL CHIP	10K 5% 1/10W
R952	1-216-097-00	METAL CHIP	160K 5% 1/10W
R951	1-216-285-00	METAL CHIP	0 5% 1/10W
R999	1-216-025-00	METAL CHIP	100 5% 1/10W

< VARIABLE RESISTOR >

RV101	1-241-393-21	RES. ADJ. METAL GLAZE	2.2K
RV102	1-241-392-11	RES. ADJ. METAL GLAZE	1K
RV103	1-241-392-11	RES. ADJ. METAL GLAZE	1K
RV104	1-241-393-21	RES. ADJ. METAL GLAZE	2.2K
RV105	1-241-393-21	RES. ADJ. METAL GLAZE	2.2K

RV106	1-241-392-11	RES. ADJ. METAL GLAZE	1K
RV107	1-241-395-11	RES. ADJ. METAL GLAZE	10K
RV108	1-241-397-11	RES. ADJ. METAL GLAZE	47K
RV109	1-241-396-11	RES. ADJ. METAL GLAZE	22K
RV110	1-241-396-11	RES. ADJ. METAL GLAZE	22K

RV111	1-241-396-11	RES. ADJ. METAL GLAZE	22K
RV112	1-241-397-11	RES. ADJ. METAL GLAZE	47K
RV113	1-241-396-11	RES. ADJ. METAL GLAZE	22K
RV601	1-241-394-11	RES. ADJ. METAL GLAZE	4.7K
RV602	1-241-394-11	RES. ADJ. METAL GLAZE	4.7K

RV701	1-241-394-11	RES. ADJ. METAL GLAZE	4.7K
RV702	1-241-391-11	RES. ADJ. METAL GLAZE	470
RV703	1-241-391-11	RES. ADJ. METAL GLAZE	470
RV705	1-241-392-11	RES. ADJ. METAL GLAZE	1K

< VIBRATOR >

X101	1-577-117-11	VIBRATOR, CRYSTAL (4.43MHz)
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Ref. No.	Part No.	Description	Remark
*	A-7071-995-A	VP-38 (G) BOARD, COMPLETE (VC)	

		(Ref.No 4,000 series)	
		< CAPACITOR >	
C901	1-163-035-00	CERAMIC CHIP	0.047uF 50V
C902	1-126-157-11	ELECT	10uF 20% 16V
C903	1-163-035-00	CERAMIC CHIP	0.047uF 50V
C904	1-163-239-11	CERAMIC CHIP	33PF 5% 50V
C905	1-163-239-11	CERAMIC CHIP	33PF 5% 50V
C906	1-163-989-11	CERAMIC CHIP	0.033uF 10% 25V
C907	1-163-035-00	CERAMIC CHIP	0.047uF 50V
C908	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V
C909	1-126-157-11	ELECT	10uF 20% 16V
		< FILTER >	
CF901	1-567-192-11	OSCILLATOR, CERAMIC (4.00MHz)	
		< CONNECTOR >	
CN901	1-573-824-11	CONNECTOR, BOARD TO BOARD 10P	
		< IC >	
IC901	8-759-147-30	IC uP075004-GB-562-384	
IC902	8-759-030-60	IC SDA5642	
		< COIL >	
L901	1-408-982-11	INDUCTOR 100uH	
		< RESISTOR >	
R901	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R902	1-216-073-00	METAL CHIP	10K 5% 1/10W
R903	1-216-073-00	METAL CHIP	10K 5% 1/10W
R904	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R906	1-216-121-00	METAL CHIP	1M 5% 1/10W
R907	1-216-119-00	METAL CHIP	820K 5% 1/10W
R908	1-216-097-00	METAL CHIP	190K 5% 1/10W
R909	1-216-066-00	METAL CHIP	5.1K 5% 1/10W
R910	1-216-119-00	METAL CHIP	820K 5% 1/10W
R911	1-216-025-00	METAL CHIP	100 5% 1/10W
R912	1-216-295-00	METAL CHIP	0 5% 1/10W
R913	1-216-049-00	METAL CHIP	1K 5% 1/10W
R914	1-216-049-00	METAL CHIP	1K 5% 1/10W
R915	1-216-049-00	METAL CHIP	1K 5% 1/10W
R916	1-216-049-00	METAL CHIP	1K 5% 1/10W
R917	1-216-049-00	METAL CHIP	1K 5% 1/10W
R921	1-216-295-00	METAL CHIP	0 5% 1/10W

Ref. No.	Part No.	Description	Remark
*	A-7063-929-A	WC-10 (G) BOARD, COMPLETE	

		(Ref.No 2,000 series)	
		< CAPACITOR >	
C003	1-126-154-11	ELECT	47uF 20% 6.3V
C020	1-126-163-11	ELECT	4.7uF 20% 50V
C029	1-163-121-00	CERAMIC CHIP	150PF 5% 50V
C030	1-163-035-00	CERAMIC CHIP	0.047uF 50V
C031	1-163-035-00	CERAMIC CHIP	0.047uF 50V
C032	1-163-035-00	CERAMIC CHIP	0.047uF 50V
C033	1-163-035-00	CERAMIC CHIP	0.047uF 50V
C034	1-163-036-00	CERAMIC CHIP	0.068uF 50V
C035	1-163-036-00	CERAMIC CHIP	0.068uF 50V
C037	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C038	1-163-023-00	CERAMIC CHIP	0.015uF 5% 50V
C042	1-163-986-00	CERAMIC CHIP	0.027uF 10% 25V
C043	1-163-135-00	CERAMIC CHIP	560PF 5% 50V
C046	1-163-121-00	CERAMIC CHIP	150PF 5% 50V
C047	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C048	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C049	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C050	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C051	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C052	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C053	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C054	1-163-036-00	CERAMIC CHIP	0.068uF 50V
C055	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C056	1-163-036-00	CERAMIC CHIP	0.068uF 50V
C057	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C059	1-126-154-11	ELECT	47uF 20% 6.3V
C060	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C062	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C063	1-163-093-00	CERAMIC CHIP	10PF 5% 50V
C064	1-126-154-11	ELECT	47uF 20% 6.3V
C065	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C067	1-126-154-11	ELECT	47uF 20% 6.3V
C068	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C069	1-165-319-11	CERAMIC CHIP	0.1uF 50V
C070	1-165-319-11	CERAMIC CHIP	0.1uF 50V
C072	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C075	1-126-154-11	ELECT	47uF 20% 6.3V
C077	1-126-154-11	ELECT	47uF 20% 6.3V
C078	1-163-121-00	CERAMIC CHIP	150PF 5% 50V
C079	1-126-154-11	ELECT	47uF 20% 6.3V
C081	1-126-154-11	ELECT	47uF 20% 6.3V
C085	1-163-241-11	CERAMIC CHIP	39PF 5% 50V

Ref. No.	Part No.	Description	Remark
< CONNECTOR >			
CN001	1-573-824-11	CONNECTOR, BOARD TO BOARD 10P	
CN002	1-573-830-11	CONNECTOR, BOARD TO BOARD 16P	
< DIODE >			
D001	8-719-104-34	DIODE 1S2836	
< FILTER >			
FL001	1-406-668-11	DELAY LINE, LC	
FL002	1-406-909-21	LINE, LC DELAY	
< IC >			
IC001	8-759-300-71	IC HD140538FP	
IC003	8-759-098-22	IC MS2350FP	
< COIL >			
L005	1-410-383-31	INDUCTOR CHIP 15uH	
< TRANSISTOR >			
Q002	8-729-010-25	TRANSISTOR MSD601-RT1	
Q003	8-729-010-25	TRANSISTOR MSD601-RT1	
Q006	8-729-010-25	TRANSISTOR MSD601-RT1	
Q008	8-729-010-25	TRANSISTOR MSD601-RT1	
Q009	8-729-010-25	TRANSISTOR MSD601-RT1	
Q010	8-729-010-25	TRANSISTOR MSD601-RT1	
Q011	8-729-010-05	TRANSISTOR MSB709-RT1	
Q012	8-729-010-25	TRANSISTOR MSD601-RT1	
Q013	8-729-010-25	TRANSISTOR MSD601-RT1	
Q014	8-729-421-19	TRANSISTOR UN2213	
Q017	8-729-010-25	TRANSISTOR MSD601-RT1	
Q018	8-729-010-05	TRANSISTOR MSB709-RT1	
< RESISTOR >			
R001	1-216-045-00	METAL CHIP 680 5% 1/10W	
R002	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R005	1-216-067-00	METAL CHIP 5.6K 5% 1/10W	
R006	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R010	1-216-079-00	METAL CHIP 18K 5% 1/10W	
R012	1-216-043-00	METAL CHIP 560 5% 1/10W	
R013	1-216-037-00	METAL CHIP 330 5% 1/10W	
R017	1-216-039-00	METAL CHIP 390 5% 1/10W	
R022	1-216-053-00	METAL CHIP 1.5K 5% 1/10W	
R028	1-216-039-00	METAL CHIP 390 5% 1/10W	
R029	1-216-089-91	METAL GLAZE 47K 5% 1/10W	
R030	1-216-089-91	METAL GLAZE 47K 5% 1/10W	
R031	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R037	1-216-039-00	METAL CHIP 390 5% 1/10W	

Ref. No.	Part No.	Description	Remark
R038	1-216-055-00	METAL CHIP 1.8K 5% 1/10W	
R039	1-216-039-00	METAL CHIP 390 5% 1/10W	
R041	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R042	1-216-048-00	METAL CHIP 910 5% 1/10W	
R043	1-216-631-11	METAL CHIP 150 0.5% 1/10W	
R048	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R049	1-216-080-00	METAL CHIP 51K 5% 1/10W	
R050	1-216-080-00	METAL CHIP 51K 5% 1/10W	
R051	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R052	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R053	1-216-099-00	METAL CHIP 120K 5% 1/10W	
R054	1-216-085-00	METAL CHIP 33K 5% 1/10W	
R055	1-216-094-00	METAL GLAZE 75K 5% 1/10W	
R056	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R057	1-216-083-00	METAL CHIP 3.9K 5% 1/10W	
R058	1-216-050-00	METAL CHIP 2.7K 5% 1/10W	
R061	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R062	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R065	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R066	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R067	1-216-295-00	METAL CHIP 0 5% 1/10W	
R070	1-216-045-00	METAL CHIP 680 5% 1/10W	
R071	1-216-295-00	METAL CHIP 0 5% 1/10W	
R073	1-216-295-00	METAL CHIP 0 5% 1/10W	
R074	1-216-295-00	METAL CHIP 0 5% 1/10W	
R075	1-216-651-11	METAL CHIP 1K 0.5% 1/10W	
R076	1-216-048-00	METAL CHIP 910 5% 1/10W	
R077	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R079	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R080	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R089	1-216-045-00	METAL CHIP 680 5% 1/10W	
R091	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R092	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R093	1-216-089-91	METAL GLAZE 47K 5% 1/10W	
R094	1-216-045-00	METAL CHIP 680 5% 1/10W	
R096	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R097	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
< VARIABLE RESISTOR >			
RV001	1-238-856-11	RES, ADJ, CERMET 10K	
RV002	1-238-856-11	RES, ADJ, CERMET 10K	
RV003	1-238-856-11	RES, ADJ, CERMET 100K	

Ref. No.	Part No.	Description	Remark
MISCELLANEOUS			

31	1-467-238-31	REMOTE COMMANDER (RMT-V138B)	
63	1-751-801-11	CABLE, FLAT (FMT-2) 27P	
65	1-765-141-11	CABLE, FLAT (FMT-7) 25P	
△103	1-251-134-11	INLET, AC (NONPOLAR)	
204	1-691-254-13	CONNECTOR, TRANSLATION 10P	
205	1-691-471-11	CONNECTOR, TRANSLATION 11P	
215	1-764-137-11	CONNECTOR, TRANSLATION 15P	
318	1-692-498-11	SWITCH, ROTARY	
△F001	1-576-228-11	FUSE, GLASS TUBE (250V/2A)	
M001	A-7040-698-A	DRUM ASSY (DGH-000A-R)	
M902	8-835-489-01	MOTOR, DC SCE-0501A	
M903	X-3942-946-1	MOTOR ASSY, CAM	
M904	A-6759-573-A	MOTOR BLOCK ASSY, TRAY	

HARDWARE LIST

#1	7-685-848-79	SCREW, TAPPING •BVTP 3X12 TYPE2, IT-3
#2	7-621-770-67	SCREW •BVTT 2.5X6 (S)
#3	7-682-845-01	SCREW •PS 3X4
#5	7-624-105-04	STOP RING 2.3, TYPE -C
#6	7-685-945-14	SCREW •BVTP 3X6 TYPE2 IT-3
#7	7-621-772-08	SCREW •S 2X3
#8	7-628-253-15	SCREW •PS 2X5
#9	7-685-845-79	SCREW •BVTP 3X8 TYPE2 IT-3
#11	7-688-003-01	W 3, SMALL
#12	7-688-001-01	W 2, MIDDLE
#13	7-685-104-19	•PTP 2X6
#14	7-685-847-79	SCREW •BVTP 3X10

Ref. No.	Part No.	Description	Remark
ACCESSORIES & PACKING MATERIALS			

	1-467-238-31	REMOTE COMMANDER (RMT-V138B)	
△	1-574-056-11	CORD, POWER (VC)	
△	1-575-131-11	CORD, POWER (NP, AE)	
△	1-575-132-11	CORD, POWER (B)	
	1-575-334-11	CORD (WITH CONNECTOR) (STEREO AV CABLE)	
△	1-590-886-21	CORD, POWER (UB)	
	1-696-593-11	CORD, CONNECTION (AERIAL CABLE)	
		(VC, AE, NP, UB)	
	1-696-851-11	CORD, CONNECTION (AUDIO CABLE)	
	1-696-905-11	CORD, CONNECTION (AERIAL CABLE) (B)	
	1-751-497-21	CORD, CONNECTION (S VIDEO CABLE)	
	1-751-739-21	CORD, CONNECTION (LANC CONTROL (I) CABLE)	
	3-695-308-01	DRIVER, VOLUME	
	3-710-901-11	SCREW, TAPPING (UB)	
	3-758-350-11	MANUAL, INSTRUCTION (ENGLISH) (UB)	
	3-758-350-41	MANUAL, INSTRUCTION	
		(DANISH, PORTUGUESE, SWEDISH) (NP)	
	3-758-350-51	MANUAL, INSTRUCTION (SPANISH) (NP)	
	3-758-350-61	MANUAL, INSTRUCTION (DUTCH) (NP, AE)	
	3-758-350-71	MANUAL, INSTRUCTION (FRENCH) (VC, NP, B)	
	3-758-350-81	MANUAL, INSTRUCTION (GERMAN) (VC, NP)	
	3-758-350-91	MANUAL, INSTRUCTION (ITALIAN) (VC, AE)	
*	3-955-848-01	CUSHION (UPPER)	
*	3-955-849-01	CUSHION (LOWER)	
*	3-958-130-01	INDIVIDUAL CARTON	
*	9-910-999-32	SHEET, PROTECTION	

The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

SECTION 6

INTERFACE AND IC PIN FUNCTION

6-1. SYSTEM CONTROL — VIDEO - AUDIO BLOCK INTERFACE (MA-173 BOARD)

Signal	Pin No.	I/O	VTR MODE												REC PAUSE
			STOP	FF	REW	×2 ×4	×2 ×4	PB	×1 AUDIO MUTE	PICTURE SEARCH (H) CUE (H) REVIEW	PB PAUSE	SLOW	REVERSE SLOW	REC	
SP/LP	IC003 ⑧	O	*1	H	H	*1	*2	*2	*2	*2	*2	*1	*1	*9	H/L
VA PB MODE	IC003 ⑨	O	L	L	L	H	H	H	H	H	H	H	H	L	L
JOG VD *3	IC003 ②	O	L	L	L	L	L	L	L	L	L	L	L	L	L
RP PB MODE	IC003 ⑤	O	L	L	L	L	L	L	L	L	L	L	L	H	L
FE ON	IC003 ④	O	H	H	H	H	H	H	H	H	H	H	H	L	H
RF SWP	IC003 ⑥	O	L	*4	*4	*4	*4	*4	*4	*4	*4	*4	*4	*4	*4
JOG	IC003 ④	O	L	L	L	H	H	L	H	H	H	H	H	L	L
SP/LP DET	IC003 ⑦	I	L	*5	*5	*5	*5	L	L	*5	*5	*5	—	H	H
CLOG DET	IC003 ③	I	H	*6	*6	*6	*6	*6	*6	*6	*6	*6	*6	H	*6
DI COMP SYNC	IC003 ⑥	I	*7	*7	*7	*7	*7	*7	*7	*7	*7	*7	*7	*7	*7
AUDIO PB	IC003 ④	O	L	L	L	*8	*8	H	*8	*8	*8	H	*8	L	L
AFM MUTE	IC003 ⑦	O	L	L	L	H	H	L	H	H	H	H	H	L	L
VVIDEO CS	IC003 ⑤	O													
S02	IC003 ⑥	O													
SCK2	IC003 ⑥	O													

V-cycle*Low*pulse

V-cycle pulse rank

V-cycle*Low*pulse rank

- *1. This outputs the result of determining what was the previous mode.
"High" output in SP mode, "Low" output in LP mode.
- *2. This outputs the result of determining which record mode the playback tape has.
- *3. Pseudo VD signal (However, only in after record mode).
- *4. Pulse of 25Hz 50% duty (synchronized with the rotation of the drum).
- *5. "High" at the SP record portion and "Low" at the LP record portion of tape.
- *6. "High" at the blank portion or at any drop out portion of tape.
Head clogging detection input.
- *7. Composite sync signal input separated from line input video signal, camera video signal or playback video signal. (This signal has positive polarity).
- *8. "Low" during shuttle editing from REC PAUSE, "High" while in any other mode.
- *9. This varies according to SP/LP switching. It becomes "High" when SP mode is entered and "Low" when LP mode is entered.

6.2. MECHANICAL CONTROL — SERVO BLOCK INTERFACE (MA-173 BOARD)

Signal	Pin No.	I/O	VTR MODE												
			STOP	FF	REW	×2	←×2	PB	PICTURE SEARCH		PB • PAUSE	SLOW	REVERSE SLOW	REC	REC PAUSE
T. REEL FG	IC002 ㉔	I	—	*1	*1	*1	*1	*1	*1	—	*1	*1	*1	—	—
S. REEL FG	IC002 ㉕	I	—	*1	*1	*1	*1	*1	*1	—	*1	*1	*1	—	—
ATF ERROR	IC002 ㉖	I	—	*2	*2	*2	*2	*2	*2	*2	*2	*2	*2	*2	*2
DRUM PG	IC002 ㉗	I	—	*3	*3	*3	*3	*3	*3	*3	*3	*3	*3	*3	*3
DRUM FG	IC002 ㉘	I	—	*4	*4	*4	*4	*4	*4	*4	*4	*4	*4	*4	*4
CAP FG/HMS CAP FG	IC002 ㉙ ㉚	I	—	*5	*5	*5	*5	*5	*5	—	*5	*5	*5	—	—
CAP ON	IC002 ㉛	O	L	H	H	H	H	H	H	L	L	*8	H	L	L
REF PILOT	IC002 ㉜	O	*7	*6	*6	*6	*6	*6	*6	*6	*6	*6	*6	*6	*6
RP PB MODE	IC002 ㉝	O	L	L	L	L	L	L	L	L	L	L	L	L	L
DRUM RV5 *11	IC002 ㉞	O	H	H	H	H	H	H	H	H	H	H	H	H	H
CAP FWD	IC002 ㉟	O	L	H	L	H	L	H	L	L	L	*8	H	L	L
DRUM PWM	IC002 ㊱	O	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10
CAP PWM	IC002 ㊲	O	L	*10	*10	*10	*10	*10	*10	L	L	*10	*10	*10	L

* 1. The amplitude modulated pulse is input by the rotation of the reel.

* 2. ATF error voltage input.

* 3. Approximately 25Hz.

* 4. Approximately 150Hz.

* 5. 320 FG pulses are input by one rotation of the capstan. Approximately

135Hz during REC/PB (SP) mode.

* 6. Four frequencies are output as synchronized with the rotation of the drum.

f1=101.02kHz, f2=117.19kHz, f3=162.76kHz, f4=146.48kHz

* 7. f1(101.02kHz) or f3(162.76kHz) is output.

* 8. "High" pulse when tape is delivered.

* 9. "Low" pulse when tape is delivered.

* 10. PWM signal with a period.

* 11. Normally "High". Temporarily "Low" when a full top cassette is loaded (drum reverse rotation).

6-3. MECHANICAL CONTROL MICRO COMPUTER CXP87140 (WA-173 BOARD IC003)

PORT FUNCTION DESCRIPTION

Pin No.	Signal	I/O	Function
1	VIBS	O	Teletext killer.
2	JOG VD	O	Pseudo V timing output in speed change playback mode.
3	DCHG	O	Video memory write control.
4	JOG	O	"H" in speed change playback mode.
5	RF PB MODE	O	"L" in any mode other than record mode.
6	FEON	O	"L" when flying erase is turned ON.
7	INTERNAL VD	O	Internal VD.
8	SP	O	"H" in SP mode.
9	XENV REQ	O	Envelope detect waveform control.
10	TRSW	I	Tray open/close button input.
11	N. C.	I	Not used.
12	PCM ACT	I	"H" when PCM is effective.
13	C DOWN SW	I	Cassette down switch input.
14	REC PREP SW	I	Picture record inhibit switch input.
15	ME MP SW	I	ME/MP switch input.
16	MPHG MP SW	I	MPHG/MP switch input.
17	R/S SW	I	R/S switch input.
18	10/13 SW	I	10p/13a switch input.
19	MODE 3 SW	I	Mechanical deck MATRIX input.
20	MODE 2 SW	I	Mechanical deck MATRIX input.
21	MODE 1 SW	I	Mechanical deck MATRIX input.
22	MODE 0 SW	I	Mechanical deck MATRIX input.
23	STB	O	Strobe signal output to EVR.
24	VIDEO CS	O	CS output to video IC.
25	VIDEO CS	O	CS output to video IC.
26	VSC CS	O	CS output to VSC IC.
27	PCM CS	O	CS output to PCM IC.
28	MEMORY CS	O	CS output to memory control IC.
29	PCM SEL 1	O	Audio output control.
30	PCM SEL 2	O	Audio output control.
31	N. C.	O	Not used.
32	N. C.	O	Not used.
33	PCM PB	O	"H" in PCM playback mode.
34	N. C.	O	Not used.
35	INSEL 2	O	Input signal select.
36	INSEL 1	O	Input signal select.
37	AF REC	O	After record control.
38	TOP/END LED	O	Tray top/end sensor LED control.
39	GND		GND.

Pin No.	Signal	I/O	Function
40	RESET	I/O	Reset input.
41	VSS	O	GND.
42	16M XTAL	O	Xtal 16MHz.
43	16M XTAL	I	Xtal 16MHz.
44	COSMO CS	I	CS input for communication with MC microcomputer.
45	SI BUS	I	Data input for communication with MC microcomputer.
46	SO BUS	O	Data output for communication with MC microcomputer.
47	SCR	I	Clock input for communication with MC microcomputer.
48	TR LOAD	O	Tray in control output.
49	TR UNLOAD	O	Tray out control output.
50	HB DET	I	HB determination input.
51	AFM MODE DET	I	Audio multiplexer discrimination input.
52	A VSS	O	Analog GND.
53	A VREF	O	Analog reference SV.
54	A VDD	O	Analog VDD SV.
55	TR IN	I	Tray state switch input (IN). Analog input.
56	TR OUT	I	Tray state switch input (OUT). Analog input.
57	PB SP DET	I	In playback mode, SP/LP discrimination input is "H" for SP. Analog input.
58	N. C.	I	Not used.
59	TOP S	I	Tape top determination input. Analog input.
60	END S	I	Tape end determination input. Analog input.
61	ATF ERR	I	ATF error input. Analog input.
62	THERM	I	Temperature compensation input. Analog input.
63	N. C.	I	Not used.
64	S REEL F6	I	S reel FG input.
65	CLOG DET	I	Clag detect input.
66	DI SYNC	I	Composite sync input.
67	T REEL FG	I	T reel FG input.
68	DRUM PG	I	Drum PG input.
69	DRUM FG	I	Drum FG input.
70	CAP PG	I	Capstan FG input.
71	V MUTE	O	Video mute output.
72	AFM MUTE	O	AFM MUTE output.
73	MECHA INV	O	Output signal which is supplied during mechanism transit.
74	DRUM RVS	O	Drum direction control output.
75	CAP PWM	O	PWM output for capstan.
76	DRUM PWM	O	PWM output for drum.
77	HMS CAP PG	I	Capstan FG input for HMS counter.

Pin No.	Signal	I/O	Function
78	ATF CLK	O	Output for ATF clock.
79	C S02	I	Communication data input for specific peripheral IC.
80	C S02	O	Communication data output for specific peripheral IC.
81	C S02	O	Communication clock output for specific peripheral IC.
82	AFM OUTSEL	O	AFM output control "H", "L" and "M" levels.
83	AFM MODE	O	AFM mode control "H", "L" and "M" levels.
84	AUDIO PB	O	"H" in audio playback mode.
85	REF PILOT	O	ATF pilot output.
86	XTAL	I	X'val 12MHz.
87	EXTAL	O	X'val 12MHz.
88	VSS		GND.
89	VDD		+5V.
90	N. C.		Not used.
91	CAP ON	O	Captain ON signal.
92	CAP FWD	O	Captain direction select signal.
93	DRUM ACC	O	Drum acceleration signal.
94	DRUM BRK	O	Drum brake signal.
95	CAM LOAD	O	Cassette compartment motor control.
96	CAM UNLOAD	O	Cassette compartment motor control.
97	EDIT	O	"L" in edit mode.
98	VA PB MODE	O	"H" in playback mode.
99	RF SWP	O	RF switching pulse output.
100	FECA	O	Flying erase REC area.

6-4. MODE CONTROL MICRO COMPUTER MB89096 (MA-173 BOARD IC002) **PORT FUNCTION DESCRIPTION**

Pin No.	Signal	I/O	Function
1	XTAL 32K	O	32KHz oscillator connecting pin.
2	EXTAL 32K	I	
3	MOD 0	I	Connected to ground.
4	MOD 1	I	Connected to ground.
5	XTAL 12M	O	12MHz main oscillator connecting pin.
6	EXTAL 12M	I	
7	VSS		GND.
8	MC RESET	I	Reset signal input (from TT OSDs-comb).
9	LANC P CONT	O	LANC IC power control.
10	S/LINE	O	Switch output between Line Video input and S/V.
11	NICAM/MAIN (RP, UB model) F PAL (B model)	O	APM select in NICAM. Transcode force PAL.
12	TUNER ON (VC, NF, UB model) SYS 2 (B model)	O	Tuner power control. Tuner system \overline{E}/L select output (B model only).
13	SYS 1	O	Tuner system \overline{E}/L select output (B model only).
14	COSMO CS	O	CS output for communications with system control.
15	COSMO REST	O	System control reset signal output.
16	HITT CS	O	TT microcomputer chip select signal.
17	POWER FAIL	I	Power failure detect input.
18	CS VD	I	V sync signal input.
19	EURO S/V	O	EURO AV output S/V select signal.
20	C+ DET	I	CANAL+ detect signal input.
21	C+ DATA	O	CANAL+ control signal.
22	C+ CLK	O	CANAL+ control signal.
23	SCL	I	PC BUS clock.
24	SDA	I	PC BUS data.
25	HIS LED	O	HIS LED control.
26	N. C.	O	Not used.
27	REC LED	O	REC LED control.
28	0V		GND.
29	TV/TV (AV CONT)	O	EURO AV input select output.
30	SYS RESET	O	SYSTEM RESET OUTPUT.
31	TIMER LED	O	TIMER REC LED control.
32	SIRCS IN	I	SIRCS signal input.
33	LANC WP	I	LANC wakeup pin.
34	EVR STB	O	D/A strobe signal for EVR (MA-173 board IC010).
35	VPS LED	O	VPS LED control.

Pin No.	Signal	I/O	Function
36	JOG 1	I	JOG dial port input.
37	JOG 2	I	JOG dial port input.
38	MC V OUT	O	V sync signal output.
39-48	N. C.	O	N. C.
49	VCC		+5V.
50-53	N. C.	O	N. C.
54	VFD P		+5V.
55	VSS		GND.
56-66	N. C.	O	N. C.
67	VCC		+5V.
68-74	N. C.	O	N. C.
75	N. C.	O	N. C.
76	RF MOD ON	O	RF modulator power control.
77	MC SI	I	Serial data input.
78	MC SO	O	Serial data output.
79	MC SCK	O	Clock output for serial communication.
80	MEM CS	O	EEPROM chip select signal output (MA-173 board IC004).
81	MEM CLK	O	EEPROM clock output (MA-173 board IC004).
82	MEM DATA	I/O	EEPROM data in/output (MA-173 board IC004).
83	AVSS		GND.
84-91	A/D0-A/D7	I	A/D input for key read.
92	AVCC		+5V.
93	DST	I	VC: 0V, NP: approx 0.9V, AE: approx 2V. UB: approx 2.9V, B: approx 3.9V.
94	S SW INPUT	I	S terminal input determination direct input.
95	N. C.	O	N. C.
96	INSEL 3	O	CANAL+ input select.
97	LANC IN	I	LANC input.
98	LANC OUT	O	LANC output.
99	TA MUTE	O	U/V tuner mute.
100	VCC		+5V.

6-5. TUNER/TUNER CONTROL MICRO COMPUTER MB89096 (FM-16 BOARD IC101)

PORT FUNCTION DESCRIPTION

Pin No.	Signal	I/O	Function
1	XTAL 25K	0	32.5KHz oscillator connecting pin.
2	EXTAL 25K	1	0
3	MOD 0	1	Connected to ground.
4	MOD 1	1	Connected to ground.
5	XTAL 10M	0	10MHz main oscillator connecting pin.
6	EXTAL 10M	1	0
7	VSS	0	GND.
8	RESET SW	I/O	Reset signal input.
9	PLL ENABLE	0	Enable output for U/V tuner frequency setting.
10	PLL DATA	0	Data output for U/V tuner frequency setting.
11	PLL CLOCK	0	Clock output for U/V tuner frequency setting.
12	VPS CS	0	CS output for VPS microcomputer.
13	N. C.	0	N. C.
14	TIME AF REC LED	0	Time code after record LED control output.
15	MC RESET	0	Reset output for MC microcomputer which is driven "L" to reset.
16	HITT CS	1	CS input for communications with MC microcomputer.
17	POWER FAIL	1	Power failure detect input which is driven "L" when power failure is detected.
18	V SYNC	1	V synchronize output from MC microcomputer.
19	TUNER V DET	1	V detect input from U/V tuner.
20	CG CS	0	CS output for character generator control.
21	AF REC LED	0	PCM after record LED control output.
22	POWER FAIL OUT	0	Power failure detect output which is driven "L" when power failure is detected.
23	N. C.	0	N. C.
24	VB LED	0	Video boost LED control.
25	CASSET LED	0	Cassette in LED control.
26	N. C.	0	N. C.
27	N. C.	0	N. C.
28	IV	0	Connected to ground.
29	MC SO	1	Data input for communications with MC microcomputer.
30	MC SI	0	Data output for communications with MC microcomputer.
31	MC SCK	1	Clock input for communications with MC microcomputer.
32	LCO CS	0	CS output for LCD controller.
33	N. C.	0	N. C.
34	CG V DET	1	Signal presence determination input (Blue back).
35	N. C. LCD BL CONT	0	Fixed "L" in the present.
36	N. C.	0	N. C.
37	N. C.	0	N. C.

Pin No.	Signal	I/O	Function
38	POWER CONT	0	Power on: H
39-48	S01-S10	0	FDP segment 01-10/Display tube control signal.
49	VCC	0	+5V.
50-52	S11-S13	0	FDP segment 11-13/Display tube control signal.
53	VDDP	0	-V _{DDP} for display tube.
54-57	S14-S17	0	FDP segment 14-17/Display tube control signal.
58	VSS	0	GND.
59-61	S18-S20	0	FDP segment 18-20/Display tube control signal.
62-66	G12-G18	0	FDP grid 12-18/Display tube control signal.
67	VCC	0	+5V.
68-74	G19-G26	0	FDP grid 19-26/Display tube control signal.
75	N. C.	0	N. C.
76	N. C.	0	N. C.
77	TT OSD SI	1	Serial data input for character generator, VPS and LCD.
78	TT OSD SO	0	Serial data output for character generator, VPS and LCD.
79	TT OSD SCK	0	Serial communication clock output. (for character generator, VPS and LCD)
80	MEM CS	0	EEPROM chip select signal output. (FM-16 board IC103)
81	MEM CLK	0	EEPROM clock output. (FM-16 board IC103)
82	MEM DATA	I/O	EEPROM data in/output. (FM-16 board IC103)
83	AVSS	0	GND.
84	AFT IN	1	V/C signal AFT input.
85	N. C.	1	N. C.
86	N. C.	0	N. C.
87	N. C.	0	N. C.
88	PCM LED	0	PCM LED control.
89	HIFI LED	0	HIFI LED control.
90	TFC LED	0	TFC LED control.
91	DNR LED	0	DNR LED control.
92	AVCC	0	+5V.
93	N. C.	0	N. C.
94	STANDBY LED	0	Standby LED control.
95	N. C.	0	N. C.
96	REMOTE LED	0	Remote LED control.
97	N. C.	0	N. C.
98	N. C.	0	N. C.
99	BUZZER OUT	0	Buzzer out.
100	VCC	0	+5V.

6-6. PCM/AFM AUDIO OUTPUT CONTROL

1) PB MODE OUTPUT CONTROL

1-1) PCM POSITION (AUDIO MONITOR SW)

PCM ON/OFF	PCM ID	AFM MODE DET	MAIN/SUB	DISPLAY	OUTPUT PATTERN (MA-173 BOARD)							
					PCM SEL1	PCM SEL2	OUT SEL3	OUT SEL4	AFM OUT SEL	AFM MUTE	AFM MODE	
					IC003②	IC003③	IC001④	IC001⑤	IC003⑥	IC003⑦	IC003⑧	
ON	STEREO	—	STEREO	STEREO	H	H	L	L	—	H	—	
			L	L	H	L	L	L	—	H	—	
			R	R	L	H	L	L	—	H	—	
	BILINGUAL	—	MAIN+SUB	MAIN+SUB	H	H	L	L	—	H	—	
			MAIN	MAIN	H	L	L	L	—	H	—	
			SUB	SUB	L	H	L	L	—	H	—	
MONO	—	No change	—	H	H	L	L	—	H	—		
OFF	—	L	STEREO	STERO	L	L	L	L	L	L	M	
			L	L	L	L	L	L	H	L	M	
			R	R	L	L	L	L	M	L	M	
	—	H	MAIN+SUB	MAIN+SUB	L	L	L	L	L	L	M	
			MAIN	MAIN	L	L	L	L	H	L	M	
			SUB	SUB	L	L	L	L	M	L	M	
	—	M	No change	—	L	L	L	L	H	L	M	

1) PB MODE OUTPUT CONTROL

1-2) MIX POSITION (AUDIO MONITOR SW)

INPUT POSITION (MODE SWITCH)					OUTPUT PATTERN (MA-173 BOARD)							
PCM ON/OFF	PCM ID	AFM MODE DET	MAIN/SUB	DISPLAY	PCM SEL1	PCM SEL2	OUT SEL3	OUT SEL4	AFM OUT SEL	AFM MUTE	AFM MODE	
					IC003②	IC003③	IC001④	IC001⑤	IC003⑥	IC003⑦	IC003⑧	
ON	STEREO	L (STEREO)	STEREO	STEREO	H	H	L	L	L	L	M	
			L	L	H	L	L	L	H	L	M	
			R	R	L	H	L	L	M	L	M	
		H (BILINGUAL)	STEREO	STEREO	H	H	L	L	L	L	M	
			L	L	H	L	L	L	H	L	M	
			R	R	L	H	L	L	M	L	M	
		M (MONO)	STEREO	STEREO	H	H	L	L	H	L	M	
			L	L	H	L	L	L	H	L	M	
			R	R	L	H	L	L	H	L	M	
	BILINGUAL	L (STEREO)	MAIN+SUB	MAIN+SUB	H	H	L	L	L	L	M	
			MAIN	MAIN	H	L	L	L	H	L	M	
			SUB	SUB	L	H	L	L	M	L	M	
		H (BILINGUAL)	MAIN+SUB	MAIN+SUB	H	H	L	L	L	L	M	
			MAIN	MAIN	H	L	L	L	H	L	M	
			SUB	SUB	L	H	L	L	M	L	M	
		M (MONO)	MAIN+SUB	MAIN+SUB	H	H	L	L	H	L	M	
			MAIN	MAIN	H	L	L	L	H	L	M	
			SUB	SUB	L	H	L	L	H	L	M	
	MONO	—	—	No display	H	H	L	L	H	L	M	

1) PB MODE OUTPUT CONTROL

1-3) MIX POSITION (AUDIO MONITOR SW) STD POSITION

PCM ON/OFF	PCM ID	AFM MODE DET	MAIN/SUB	DISPLAY	OUTPUT PATTERN (MA-173 BOARD)							
					PCM SEL1	PCM SEL2	OUT SEL3	OUT SEL4	AFM OUT SEL	AFM MUTE SEL	AFM MODE	AFM MODE
OFF	—	L	STEREO	STEREO	L	L	L	L	L	L	L	M
			L	L	L	L	L	L	H	L	M	M
			R	R	L	L	L	L	M	L	M	M
	—	H	MAIN+SUB	MAIN+SUB	L	L	L	L	L	L	M	M
			MAIN	MAIN	L	L	L	L	H	L	M	M
			SUB	SUB	L	L	L	L	M	L	M	M
	—	M	No change	—	L	L	L	L	H	L	M	M

• See EE mode when in after record mode.

2) EE MODE OUTPUT CONTROL

INPUT STEREO/BILINGUAL MODE	AUDIO MONITOR SW	MAIN/SUB	DISPLAY	OUTPUT PATTERN (MA-173 BOARD)							
				PCM SEL1	PCM SEL2	OUT SEL3	OUT SEL4	AFM OUT SEL	AFM MUTE SEL	AFM MODE	AFM MODE
TUNER MONO	AUTO	—	—	H	H	L	L	H	H	L	L
	MIX			H	H	L	L	H	L	L	L
	STD			L	L	L	L	H	L	L	L
TUNER ST LINE ST	AUTO	—	STEREO	H	H	L	L	L	H	H	H
	MIX	—		H	H	L	L	L	L	H	H
	STD	—		L	L	L	L	L	L	H	H
TUNER BIL LINE BIL	AUTO	MAIN+SUB	MAIN+SUB	H	H	L	L	L	H	M	M
		MAIN	MAIN	H	L	L	L	H	H	M	M
		SUB	SUB	L	H	L	L	M	H	M	M
	MIX	MAIN+SUB	MAIN+SUB	H	H	L	L	L	L	M	M
		MAIN	MAIN	H	L	L	L	H	L	M	M
		SUB	SUB	L	H	L	L	M	L	M	M
	STD	MAIN+SUB	MAIN+SUB	L	L	L	L	L	L	M	M
		MAIN	MAIN	L	L	L	L	H	L	M	M
		SUB	SUB	L	L	L	L	M	L	M	M

- "AFM MUTE" is to be driven "H" when After Record (including After Record PAUSE) is selected.
- Disp HiFi is lit when STEREO/BILINGUAL is displayed. However, it is lit off when After Record (including PAUSE) is selected.
- Whether Playback or REC System is selected, the "AFM MIX" port is driven "H" when the Audio Monitor switch is placed in MIX. Otherwise, it is driven "L".
- EE System is followed in SHUTTLE EDIT mode.
- Each signal has the levels shown below.
 - AFM OUTSEL ...H=4.0V or more, M=2.0 to 2.7V, L=0.8V or less.
 - AFM MODE DET...H=3.4V to 4.75V, M=1.5 to 2.6V, L=0 to 0.8V.
 - AFM MODE ...H=4.0V or more, M=2.0 to 2.7V, L=0.8V or less.
- In MUTE mode,
 - OUTSEL 1, 2="L", AFM MUTE="H"

3) INPUT SELECT CONTROL

	LINE1	LINE2	LINE3	TUNER
MA-173 BOARD				
INSEL1 (IC003③)	L	L	H	L
INSEL2 (IC003④)	L	H	L	L
INSEL3 (IC002⑤)	H	H	L	L

- H=4V or more, L=0.8V or less

SECTION 7 ADJUSTMENTS

<SERVICE MODE>

☆ This unit uses the EVR (Electronic Variable Resistor) for performing adjustments and tests. These functions are implemented by the SENSER LANC system.

1. SENSER LANC

SENSER LANC is the LANC format designed to perform EVR (electronic variable resistor) adjustments and various tests for this 8mm VTR by using the LANC (Control L). The SENSER LANC is synonymous with the old SERVICE LANC. But there have been enhancements and the SENSER LANC is now used as a unified word.

2. HOW TO USE THE RM-95 JIG (ADJUSTMENT REMOTE CONTROL)

The RM-95 jig is used to operate the SENSER LANC. This jig will create the SENSER LANC Mode. Because of this, the HOLD switch has been modified for service purpose.

Note that the old models of the RM-95 have no page display function and it is needed to replace their microcomputers within these old models.

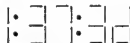
Old	μ PD7503G-A71-12 μ PD7503G-C23-12	8-759-142-56 8-759-146-77	No Page display (The microcomputer must be replaced.)
New	μ PD7503G-C56-12	8-759-148-35	Page display

LCD Display of RM-95

Example

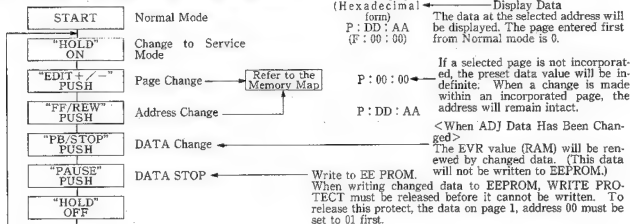


Page Data Address



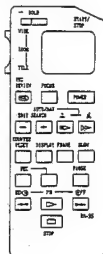
This means that the data on page 1, address 3D is 37.

3. HOW TO CHANGE THE SERVICE MODE WITH RM-95

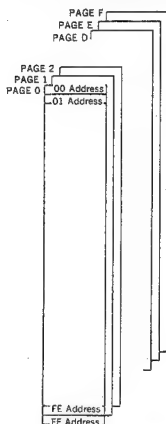


RM-95 (J-6082-053-B)

Command	Action	RM-95 Control Button Pushed
Page Up	Page+1	Edit Search +
Page Down	Page-1	Edit Search -
Address Up	Address+1	Fast Forward
Address Down	Address-1	Rewind
Data Up	Data+1	Play Back
Data Down	Data-1	Stop
Store	Writes data to EEPROM, RAM	Pause



4. SENSER LANC MEMORY MAP



This unit has pages 0 to F allocated as listed below.

PAGE	Page Allocation
0	
1	D Page Protect Release
2	
3	
4	
5	
6	F Page Protect Release
7	
8	
9	
A	
B	
C	
D	EEPROM on the MA Board
E	
F	EEP ROM on the FM Board

Note) There are 16 different pages from C to F available. These pages are allocated as listed above. In particular, address 00 on each page is called category. For example, "category 3 on page 2" means that data 03 is placed at address 00 on page 2.

5. EEPROM WRITE PROTECT

EEPROM Write Protect is released and established as follows:

Page 1	Address 00
--------	------------

Data	Function
00	Normal (Write Protected)
01	Write Protect Release

Note 1: EE-PROM on page D is located on the MA board.

Note 2: After completing necessary adjustments/repairs, be sure to return the data at this address to 00.

Note 3: No special adjustment (data write) is required for page F.

To release page F from protection, write 01 onto address 00 on page 6.

6. TEST MODE SETTING

Page 3	Address 01
--------	------------

Data	Function
01	<p>Track Shift Playback</p> <ul style="list-style-type: none"> • Automatic discrimination between SP and LP is also inhibited and REC SP/LP is followed. • Data at address 08 in category 2 should be changed if you want to change track shift amount.

Page B	Address 10
--------	------------

Data	Function
06	<p>Clock Adjustment</p> <ul style="list-style-type: none"> • When 2F is written to address 23 in category 0 in port check mode, BUZZER OUT will oscillate at 4096Hz.

7. EMERGENCY CODES

These codes can be used to check the condition of failure (abnormality) that occurred.

Page D	Address EC
--------	------------

First Emergency Code

...The code of the first failure that occurred.

Page D	Address E8
--------	------------

Second Emergency Code

...The code of the second failure that occurred.

Page D	Address E4
--------	------------

Last Emergency Code

...The code of the last failure that occurred (This data will be renewed each time a failure occurs).

Note 1: After completing necessary adjustments/repairs, be sure to rewrite the data address EC, E8 and E4 to 00.

Note 2: When writing data, after setting the data, be sure to press the PAUSE button on the adjustment remote control.

Code	Condition of Failure
00	No failure
10	Load Direction, Cam Encoder Failure
11	Unload Direction, Cam Encoder Failure
22	T Reel Rotational Failure
23	S Reel Rotational Failure
24	FG Failure at Start of T Reel
25	FG Failure at Start of S Reel
30	Failure at Start of Capstan
31	Failure During Stationary Operation of Capstan
40	FG Failure at Start of Drum
41	PG Failure at Start of Drum
42	FG Failure During Stationary Operation of Drum
60	FL Cassette Compartment Failure
70	DEW EJECT Failure

8. D PAGE MEMORY MAP

Note) When replacing EEPROM on the MA board, set data on page D as follows.

Address	Function	Initial Value	Memo Column
00		00	
01		00	
02			
03	Adjustment Mode	04	
04	Switching Position Adjustment (LOW)	Adjustment	
05	Switching Position Adjustment (HIGH)	Adjustment	
06			
07		7C	
08		56	
09		AD	
0A		39	
0B		39	
0C		39	
0D		39	
0E		FD	
0F		39	
10		21	
11		22	
12		10	
13	SP/LP Voltage Adjustment	Adjustment	
14			
15			
16			
17	Capstan Duty Adjustment	Adjustment	
18	PB VCO Adjustment	Adjustment	
19			
1A	FF VCO Adjustment	Adjustment	
1B	REW VCO Adjustment	Adjustment	
1C	High Speed FF VCO Adjustment	Adjustment	
1D	High Speed REW VCO Adjustment	Adjustment	
1E			
1F			
20			
21			
22			
23			
24			
25			
26			
27			
28		7C	
29		56	
2A		AD	
2B			
2C		7C	
2D		56	

Address	Function	Initial Value	Memo Column
2E		2D	
2F			
30-DF	Not used		
E0			
E1			
E2			
E3			
E4	Emergency Code (LAST)	00	
E5		00	
E6		00	
E7		00	
E8	Emergency Code (2nd)	00	
E9		00	
EA		00	
EB		00	
EC	Emergency Code (1st)	00	
ED		00	
EE		00	
EF		00	
F0			
F1			
F2			
F3			
F4			
F5			
F6			
F7			
F8			
F9			
FA			
FB			
FC			
FD			
FE			
FF			

7-1. MECHANICAL ADJUSTMENTS

For Mechanical Adjustments

For the procedures how to adjust and check the mechanism, as well as how to replace mechanical parts, refer to the separate 8mm Video Mechanical Adjustment Manual V (9-973-445-11).

However, for the procedures how to set the Track Shift mode, refer to the following text.

1-1. TAPE PASS ADJUSTMENT

[TRACK SHIFT]

The 8mm Video Tape Recorder system uses the AFT (Automatic Track Finding) function in which four different pilot signals are used for controlling the tape speed instantaneously to provide high precision tracking. This eliminates the Tracking Adjustment control, thus allowing accurate tracing.

In spite of its advantageous feature, the AFT system may have a difficulty in adjusting the tape pass system. The ATF will automatically corrects tracing even if the head has only a little tracing distortion. This may make it impossible to perform a complete adjustment.

Therefore, when performing a fine adjustment for tracking, the Track Shift mode should be entered before starting this adjustment. This mode will force to operate the ATF to shift the amount of tracking by a given quantity (approximately 1/4), so that tracking can be easily fine adjusted. Furthermore, no track shift jig is needed.

1-1-1. Setting the Track Shift Mode

- 1) Place the adjustment remote control RM-95 (J-6082-053-B) in the HOLD ON position.
- 2) Operate the EDIT +/- button to select adjustment page 3.
- 3) Operate the FF/REW button to select adjustment address 1.
- 4) Operate the PB/STOP button to set to adjustment data 1. (This will go to the Test Mode 3 (Pass Adjustment).)

Note 1 :For details of the Test Mode, refer to "SECTION 7. SERVICE MODE."

Note 2 :If the LP mode is recognized by the system wrongly, operate the Recording Time SP/LP button to enter the SP mode.

Note 3 :After adjustment, operate the PB/STOP button to reset to adjustment data 00. Place the remote control in the HOLD OFF position to return to the normal mode.

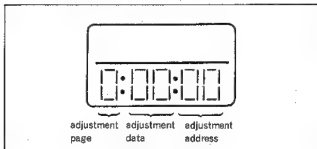


Fig. 7-1-1.

1-1-2. Preparation before Adjustment

- 1) Clean the surfaces over which tape moves past (of the tape guides, drum, capstan shaft and pinch rollers).
- 2) Oscilloscope Connection and Waveform Output:
1 ch: Drum head's RF signal output, RP-165 board CN001 pin ③ (PB Y)
External trigger input: RP-165 board CN001 pin ② (RF SWP)
GND: RP-165 board CN001 pin ① (GND)
- 3) Play back alignment tape for tracking (WR5-1CP).
- 4) Check that RF waveform observed on the oscilloscope is flat on both entrance and exit sides.
If not flat, perform necessary adjustment according to the separate 8 mm Video Mechanical Adjustment V.

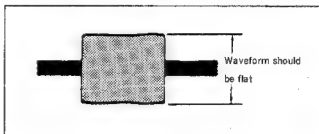


Fig. 7-1-2.

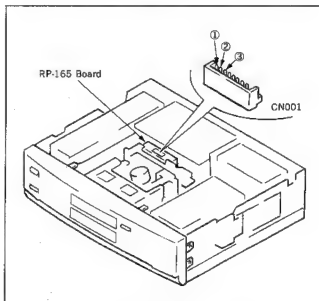


Fig. 7-1-3.

7-2. ELECTRICAL ADJUSTMENTS

See the adjusting part location diagram from on page 7-38 for the adjustment.

For details of the SENSER LANC, refer to "7 SERVICE MODE".

2-1. PREPARATION BEFORE ADJUSTMENT

2-1-1. Equipment Required

The measuring instruments used for this alignment include:

- 1) Monitor TV
- 2) Oscilloscope, dual-trace, bandwidth of 30MHz or more, with delay mode (A probe 10:1 should be used unless otherwise specified.)
- 3) Frequency counter
- 4) Pattern generator (with Video Output terminal; refer to Section 7-2-1. Equipment Connection.)
- 5) Digital voltmeter
- 6) Audio generator
- 7) Audio level meter
- 8) Audio distortion meter
- 9) Audio attenuator
- 10) Vector scope
- 11) Alignment tapes

- For tracking adjustment (WR5-1CP)
Part No.: 8-967-995-07
- For video frequency adjustment (WR5-7CE)
Part No.: 8-967-995-18
- For L mode operation check
For SP (WR5-5CSP)
Part No.: 8-967-995-46
or (WR5-4CSP)
Part No.: 8-967-995-47
For LP (WR5-4CL)
Part No.: 8-967-995-56
- For E mode operation check (ME tape)
For SP (WR5-8CSE)
Part No.: 8-967-995-48
For LP (WR5-8CLE)
Part No.: 8-967-995-57
- For AFM stereo operation check (WR5-9CS)
Part No.: 8-967-995-28

- 12) Adjustment remote control (J-6082-053-B)

2-1-2. Equipment Connection

According to the specification of the input terminal (S VIDEO or VIDEO), connect required measuring instruments as shown in Fig. 7-2-1. and perform adjustment. The input terminal is specified in the parentheses () in the signal column. Unless otherwise specified, either terminal may be used. Note that the S VIDEO input terminal takes precedence. When performing adjustment with the VIDEO input terminal, pull out the connector from the S VIDEO input terminal.

Note 1 : When S VIDEO input is specified for a specific adjustment, if the adjustment is performed with VIDEO input, the product specifications for this unit may not be satisfied. The specified input must be always used.

Note 2 : If an adjustment is performed by using a VTR with S Video output terminal as a signal source, the performance of this unit will be affected by that VTR. A pattern generator with Y/C separation output terminal should be used wherever possible.

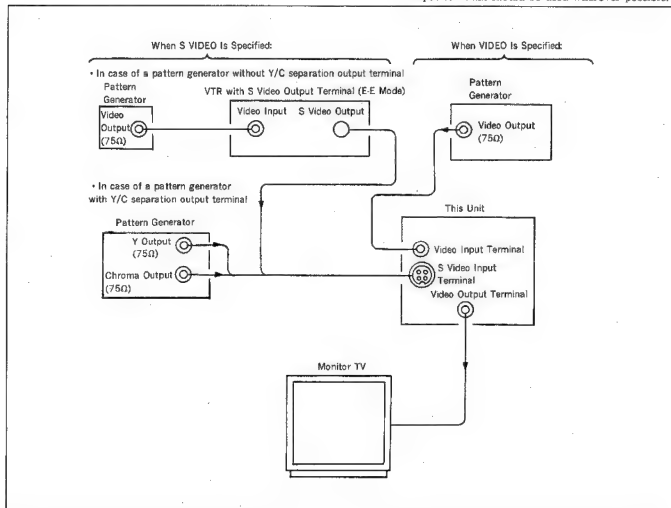


Fig. 7-2-1.

2-1-3. Input Signal Check

Video signal produced by a pattern generator is used as an adjustment signal to perform electrical alignment for this unit. This video signal must satisfy the specification.

1) S VIDEO Input

Connect an oscilloscope to the Y Signal terminal of the S Video Input terminal. Check that the synchronizing signal of the Y signal is approximately at 0.3Vp-p and that its video portion has an amplitude of approximately 0.7Vp-p. (When a VTR with S video output terminal is used, in addition to these checks, make sure that there are no residual chroma and burst signals.) Then, connect the scope to the Chroma signal terminal of the S Video Input terminal and check that the chroma signal has a burst signal amplitude of 0.3Vp-p and the burst signal waveform is flat. And check that the amplitude ratio of burst signal to chroma signal is 0.30 : 0.66. The Y and chroma signals used for electrical alignment are shown in Fig. 7-2-2.

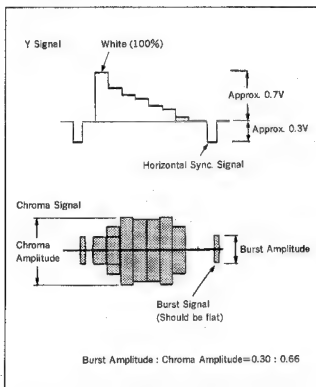


Fig. 7-2-2. Color Bar Signals of Pattern Generator

2) VIDEO Input

Connect an oscilloscope to the Video Input terminal. Check that the synchronizing signal of the Y signal has an amplitude of approximately 0.7V and that the burst signal has an amplitude of approximately 0.3V and its waveform is flat. And check that the level ratio of burst signal to "red" signal is 0.30 : 0.66.

The video signal (color bar) used for electrical aligning this unit is shown in Fig. 7-2-3.

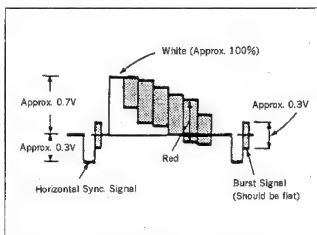


Fig. 7-2-3. Color Bar Signals of Pattern Generator

2-1-4. Alignment Tapes

The following alignment tapes are available.

The tape specified in the signal column for the adjustment to be performed should be used.

Note that if no tape code is specified for the adjustments in which alignment tapes for operation check are used, any tape for operation check may be used.

Alignment Tape	Record Mode	Tape Type	Tape Speed	Contents of Record		Applications
				Video Area	PCM Area	
Tracking WR5-1CP	L	MP	SP	CH2: 1MHz tape pass adjustment signal Switching position adjustment marker (CH1: 9MHz)		Tape pass adjustment Switching position adjustment
Video frequency characteristic WR5-7CE	E	ME	SP	RF sweep 0~15MHz Marker 2, 4.5, 7, 8.5, 10MHz		Frequency characteristic
Operation check WR5-4CSP or WR5-5CSP	L	MP	SP	<ul style="list-style-type: none"> Video signal Color bar 4 min. Monoscope 4 min. Audio signal (AFM) 400Hz 60% modulated 	<ul style="list-style-type: none"> Audio signal (PCM) Monoscope portion 20Hz 20sec. This cycle 400Hz 20sec. is repeated 14Hz 20sec. 4 times Color bar portion 1kHz, 4min. 	Operation check
WR5-8CSE	E	ME	SP		400Hz, 8min.	
WR5-4CL	L	MP	LP	<ul style="list-style-type: none"> Video signal Color bar 4 min. Monoscope 4 min. Audio signal (AFM) 400Hz 60% modulated 		
WR5-3CL	L	MP	LP			
WR5-8CLE	E	ME	LP		<ul style="list-style-type: none"> Audio signal (PCM) 400Hz 	
AFM stereo operation check WR5-9CS	L	MP	SP	<ul style="list-style-type: none"> Video signal Color bar 4 min. Monoscope 4 min. Audio signal (AFM) Stereo portion (color bar) Lch: 400Hz Rch: 1kHz (L+R 1.5MHz±60kHz DEV) (L-R 1.5MHz±30kHz DEV) Bilingual portion (monoscope) MAIN: 400Hz (1.5MHz±60kHz DEV) SUB: 1kHz (1.7MHz±30kHz DEV) 	<ul style="list-style-type: none"> Audio signal (PCM) 400Hz, 8 min. 	AFM stereo operation check

Note: Recording Mode

L Conventional mode

E Hi 8 (High Band) mode

Tape Type

MP Metal powder tape

ME Metal evaporated tape

The color bar signal recorded on these alignment tapes are shown in Fig. 7-2-4.

Note : This waveform is measured at the VIDEO OUT terminal (terminated at 75Ω).

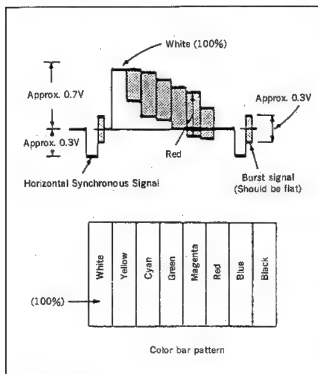


Fig. 7-2-4. Color Bar Signal of Alignment Tape

2-1-5. Input/Output Levels and Impedance

Antenna
75-ohm asymmetrical aerial socket

EURO-AV: LINE 1

21-pin
Video input : pin 20
Audio input : pins 2 and 6
Video/luminance output : pin 19
Chrominance output : pin 15
Audio output : pins 1 and 3

CANAL PLUS (EV-S9000E B/NP)

21-pin

PAY-TV (EV-S9000E VC)

Video input : pin 20
Audio input : pins 2 and 6
Video output : pin 19
Audio output : pins 1 and 3

LINE IN 2 and 3

S VIDEO IN (4-pin mini DIN) 1 each
Y : 1 Vp-p 75ohms
(unbalanced), sync negative
C : 0.3 Vp-p (colour burst) 75 ohms (unbalanced)
VIDEO IN (phono jack) 1 each
Input signal : 1 Vp-p, 75 ohms (unbalanced), sync negative
AUDIO IN (phono jack) (2 each)
Input level : -7.5 dBs
(0 db=0.775 Vrms)
Input impedance : more than 47 kilohms

LINE OUT

S VIDEO OUT (4-pin mini DIN)
Y : 1 Vp-p 75 ohms
(unbalanced), sync negative
C : 0.3 Vp-p (colour burst) 75 ohms (unbalanced)
VIDEO OUT (phono jack)
Output signal : 1 Vp-p, 75 ohms, (unbalanced), sync negative
AUDIO OUT (phono jack)
Standard output : -7.5 dBs at load impedance 47 kilohms
Output impedance : less than 10 kilohms

Microphone input

Minijack -60 dBs, for
low impedance
microphone

Headphone jack

Stereo minijack -26 dBs,
8 ohms

CONTROL S IN

Minijack

LANC

Stereo mini-minijack

2-2. POWER SUPPLY CHECK

2-2-1. Output Voltage Check (PS-316 Board)

Mode	E-E
Measurement instrument	Digital voltmeter
UN 13.5V check	
Measurement point	CN002 pin ①②, CN003 pin ⑤
Specified value	$13.5 \pm 1.5\text{Vdc}$
UN 5.8V check	
Measurement point	CN002 pin ⑤, CN003 pin ⑥⑦
Specified value	$6.0 \pm 0.2\text{Vdc}$
SW 5V check	
Measurement point	CN002 pin ⑥, CN003 pin ⑧
Specified value	$5.0 \pm 0.2\text{Vdc}$
UN -5V check	
Measurement point	CN003 pin ⑩
Specified value	$-5.0 \pm 0.2\text{Vdc}$
SW -5V check	
Measurement point	CN003 pin ⑪
Specified value	$-5.0 \pm 0.2\text{Vdc}$

[Check Method]

- Each of these supply voltages must meet its specified value.

2-3. SYSTEM CONTROL SYSTEM ADJUSTMENTS

2-3-1. Timer Clock Adjustment (FM-16 Board)

Mode	E-E
Signal	Arbitrary
Measurement point	IC101 pin ⑧ (BUZZER OUT)
Measuring instrument	Frequency counter
Adjustment element	CT001
Specified value	$4096.040 \pm 0.010\text{Hz}$

Note: A frequency counter should be connected through a buffer amplifier (oscilloscope, etc.) having a high impedance and a low capacitance.

[Adjustment Method]

- Place the adjustment remote control RM-95 (J-6082-053-B) in the HOLD ON position.
- Set address 00 on B page with data 01.
- Set address 10 on B page with data 06.
- Set address 00 on B page with data 00.
- Set address 23 on B page with data 2F.
- Use CT001 to adjust to $4096.040 \pm 0.010\text{Hz}$.
- After this adjustment, Push on the **RESET** key.

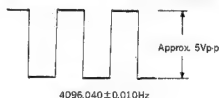


Fig. 7-2-5.

2-4. SERVO SYSTEM ADJUSTMENTS

[Adjustment sequence]

1. PWM Frequency Adjustment
2. Switching Position Adjustment
3. CAP Duty Adjustment
4. SP/LP Discrimination Check
5. SLOW Adjustment

2-4-1. PWM Frequency Adjustment (MA-173 Board)

Mode	Record
Signal	Arbitrary
Measurement point	IC302 pin ⑩
Measuring instrument	Frequency counter
Adjustment element	RV301
Specified value	$475 \pm 25\text{kHz}$

[Adjustment Method]

- 1) Set Recording Time to SP mode.
- 2) Use RV301 to adjust to $475 \pm 25\text{kHz}$.
- 3) Set Recording Time to LP mode.
- 4) Check for at $475 \pm 25\text{kHz}$.
- 5) If the specification is not met, repeat Steps 1) to 4).



Fig. 7-2-6.

2-4-2. Switching Position Adjustment

Mode	Playback
Signal	Alignment tape: For operation check (WR5-ICP)
Measurement point	CH-1: RP-165 board CN001 pin ② (RF SWP) CH-2: RP-165 board CN001 pin ⑤ (PB RF 2CH)
Measuring instrument	Oscilloscope
Adjustment page	D
Adjustment address	05 04
Specified value	$t = 0 \pm 5\mu\text{sec}$

[Adjustment Method]

- 1) Place the adjustment remote control RM-95 (J-6082-053-B) in the HOLD ON position.
- 2) Use EDIT+/- button to select adjustment page 1.
- 3) Use FF/REW button to select adjustment address 00.
- 4) Use PB/STOP button to set to adjustment data 01.
- 5) Press PAUSE button on the remote control to store the adjustment data.
- 6) Use EDIT+/- button to select adjustment page d.
- 7) Use FF/REW button to select adjustment address 05.
- 8) Operate PB/STOP button to change and set adjustment data so that $t = 0 \pm 255\mu\text{sec}$.
- 9) Press PAUSE button on the remote control to store the adjustment data.
- 10) Use EDIT+/- button to select adjustment address 04.
- 11) Use FF/REW button to change and set adjustment data so that $t = 0 \pm 5\mu\text{sec}$.
- 12) Press PAUSE button to store the adjustment data.

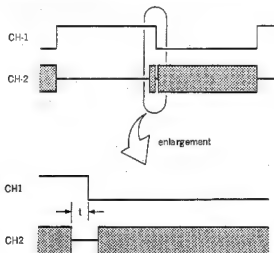


Fig. 7-2-7.

2-4-3. CAP Duty Adjustment

Mode	Record (LP mode)
Signal	Arbitrary
Measurement point	MA-173 board CN303 pin ① (CAP FG) and pin ② (CAP ERROR)
Measuring instrument	Oscilloscope
Adjustment page	D
Adjustment address	17
Specified value	$t_1 = t_2$

[Adjustment Method]

- 1) Place the adjustment remote control RM-95 (J-6082-053-B) in the HOLD ON position.
- 2) Set data at address 00 on page 1 to 01.
- 3) Change data at address 17 on page D and adjust so that $t_1 = t_2$ (50% duty).



Fig. 7-2-8.

- 4) At this time, check that the V1 at pin ② level is minimum level.
- 5) Press PAUSE button to store the adjustment data.

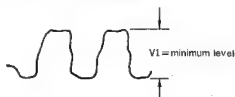


Fig. 7-2-9.

2-4-4. SP/LP Discrimination Check

(1) SP mode

Mode	Record (SP mode)
Signal	Arbitrary
Measurement point	MA-173 board CN303 pin ④ (SP/ $\overline{\text{LP}}$ DET) and pin ⑤ (V REF)
Measuring instrument	Oscilloscope
Specified value	0.15Vp-p or more

[Check Method]

- 1) Connect CH1 of an oscilloscope with CN303 pin ④ and CH2 with CN303 pin ⑤.
- 2) Check the difference in voltage at between pin ④ and pin ⑤.
- 3) If the specification is not satisfied, with adjustment remote control RM-95 (J-6082-053-B), change data at address 13 on page D and adjust so that the difference falls into the specified range.

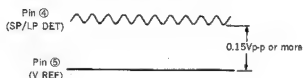


Fig. 7-2-10.

(2) LP mode

Mode	Record (LP mode)
Signal	Arbitrary
Measurement point	MA-173 board CN303 pin ④ (SP/LP DET) and pin ⑤ (V REF)
Measuring instrument	Oscilloscope
Specified value	0.35V _{p-p} or more

[Check Method]

- 1) Connect CH1 of an oscilloscope with CN303 pin ④ and CH2 with CN303 pin ⑤.
- 2) Check the difference in voltage at between pin ④ and pin ⑤.
- 3) If the specification is not satisfied, with adjustment remote control RM-95 (J-6082-053-B), change data at address 13 on page D and adjust so that the difference falls into the specified range.
- 4) After adjustment, perform the discrimination check in SP mode again.

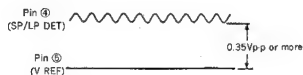


Fig. 7-2-11.

2-4-5. SLOW Adjustment

Mode	Self-record playback (SP and LP modes)
Signal	Color bar
Measurement point	CH-1: RP-165 board CN001 pin ② (RF SWP) CH-2: RP-165 board CN001 pin ③ (PB Y)
Measuring instrument	Oscilloscope
Adjustment page	D
Adjustment address	21 (SLOW TRACON DATA (LP)) 20 (SLOW TRACON DATA (SP)) 23 (—SLOW TRACON DATA (LP)) 22 (—SLOW TRACON DATA (SP))
Specified value	A=B

[Adjustment Method]

- 1) Record color bar signal in both SP and LP modes.
- 2) Play back the recorded signal.
- 3) Place the adjustment remote control in the HOLD ON position.
- 4) Use EDIT +/- button to select adjustment page D.
- 5) Use FF/REW button to select adjustment address 21.
- 6) Enter LP mode and check that the record is played back.
- 7) Use the remote commander or the EDIT SHUTTLE SLOW on the set to enter SLOW 1/5 mode.
- 8) Operate PB/STOP button on the remote control RM-95 to change and set adjustment data so that A=B.
- 9) Press PAUSE button on the remote control to store the adjustment data.
- 10) In the same manner, select adjustment address 20 for SP Mode SLOW (1/5) mode, adjustment address 23 for LP Mode —SLOW (—1/5) mode, and address 22 for SP Mode —SLOW (—1/5) mode and adjust so that A=B.

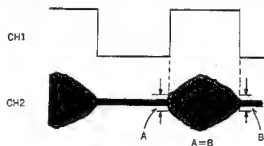


Fig. 7-2-12.

2-5. VIDEO SYSTEM ADJUSTMENTS

Color video signal supplied from a pattern generator is used as a video input signal for Video System Alignment in the Recording mode. This signal should be checked to ensure that it meets the specifications provided in Figs. 7-2-2 and 7-2-3 and "INPUT SIGNAL CHECK".

The adjustments in Video System Alignment should be performed in the following sequence.

[Adjustment sequence]

1. Playback Frequency Characteristic Adjustment
2. SYNC AGC Adjustment
3. Accel Y Level Adjustment
4. Accel C Level Adjustment
5. Chroma Comb Filter Adjustment
6. Pre-emphasis Input Level Adjustment
7. L Mode Y FM Carrier Frequency, Y FM Deviation Adjustment
8. E Mode Y FM Carrier Frequency, Y FM Deviation Adjustment
9. Chroma Emphasis Adjustment
10. L Mode De-emphasis Level Adjustment
11. L Mode Playback Level Adjustment
12. E Mode De-emphasis Level Adjustment
13. E Mode Playback Level Adjustment
14. Recording Chroma Level Pre Adjustment
15. Recording Y Level Adjustment
16. L Mode Recording Chroma Level Adjustment
17. E Mode Recording Chroma Level Adjustment
18. Y/Chroma Adjustment
19. Carrier Leak Adjustment

2-5-1. Playback Frequency Characteristic Adjustment (RP-165 Board)

Note: The designation [] stands for adjustment on CH-2.

Mode	Playback
Signal	Alignment tape: for frequency characteristic adjustment (WR5-7CE)
Measurement point	CN001 pin ⑤ (PB RF 1CH) (CN001 pin ⑥ (PB RF 2CH)) External trigger: CN001 pin ② (RF SWP) Trigger slope: -[+]
Measuring instrument	Oscilloscope
Adjustment element	RV001 [RV002]
Specified value	4.5MHz level: 8.5MHz level=3: (2±0.2)

[Adjustment Method]

- 1) Use RV001 [RV002] to adjust so that the ratio of 4.5MHz level to 8.5MHz of PB RF output waveform is 3: (2±0.2).

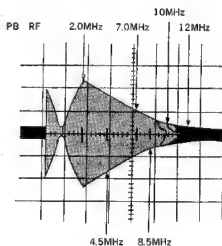


Fig. 7-2-13.

2-5-2. SYNC AGC Adjustment (VI-121 Board)

Mode	E-E
Signal	Color bar (S VIDEO)
Measurement point	CN101 pin ⑧ (DI Y (X))
Measuring instrument	Oscilloscope
Adjustment element	RV107
Specified value	$1.00 \pm 0.05 \text{ Vp-p}$

[Adjustment Method]

- 1) Use RV107 to adjust to $1.00 \pm 0.05 \text{ Vp-p}$.

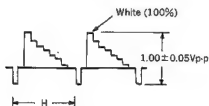


Fig. 7-2-14.

2-5-3. Accel Y Level Adjustment (VI-121 Board)

Mode	E-E
Signal	Color bar (VIDEO)
Measurement point	IC105 pin ⑧ (VIN 1)
Measuring instrument	Oscilloscope
Adjustment element	RV601
Specified value	$0.50 \pm 0.02 \text{ Vp-p}$

[Adjustment Method]

- 1) Use RV601 to adjust to $0.50 \pm 0.02 \text{ Vp-p}$.

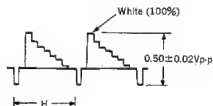


Fig. 7-2-15.

2-5-4. Accel C Level Adjustment (VI-121 Board)

Mode	E-E
Signal	Color bar (VIDEO)
Measurement point	CN101 pin ⑧ (VI C (X))
Measuring instrument	Oscilloscope
Adjustment element	RV602
Specified value	$120 \pm 10 \text{ mVp-p}$

[Adjustment Method]

- 1) Use RV602 to adjust to $120 \pm 10 \text{ mVp-p}$.

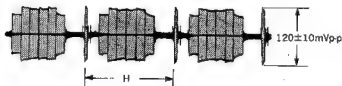


Fig. 7-2-16.

2-5-5. Chroma Comb Filter Adjustment (VI-121 Board)

Mode	Playback
Signal	Alignment tape: For operation check, color bar portion (WR5-5CSP)
Measurement point	Line Video out terminal
Measuring instrument	Vectorscope
Adjustment element	RV112 (GAIN) RV103 (PHASE)
Specified value	No difference on the scope screen when [EDIT] key is turned ON/OFF.

[Adjustment Method]

- 1) Connect a vector scope to the line output video terminal.
- 2) Playback alignment tape.
- 3) Adjust RV112 and RV103 so that there is no difference on the scope screen when [EDIT] key is turned ON/OFF.

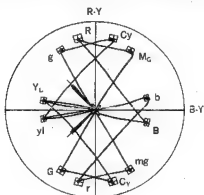


Fig. 7-2-17.

2-5-6. Pre-emphasis Input Level Adjustment (VI-121 Board)

Mode	E-E
Signal	Color bar (S VIDEO)
Measurement point	IC105 pin ⑥
Measuring instrument	Oscilloscope
Adjustment element	RV106
Specified value	$0.50 \pm 0.02V_{p-p}$

[Adjustment Method]

- 1) Use RV106 and adjust to $0.50 \pm 0.02V_{p-p}$.

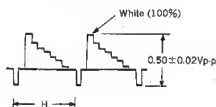


Fig. 7-2-18.

2-5-7. L Mode Y FM Carrier Frequency, Y FM Deviation Adjustment

Note 1: After this adjustment, be sure to perform "2-5-8. E Mode Y FM Carrier Frequency, Y FM Deviation Adjustment".

Note 2: The S Video Line output terminal should be terminated at 75Ω.

- (1) L Mode Y FM Carrier Frequency Adjustment
(VI-121 Board)

Mode	E-E
Signal	No signal (select Line in)
Measurement point	IC105 pin ⑥ (Y RF OUT)
Measuring instrument	Frequency counter Oscilloscope
Adjustment element	RV111
Specified value	$4.38 \pm 0.05MHz$

Note: A frequency counter should be connected through a buffer amplifier (oscilloscope, etc.) having a high impedance and a low capacitance.

[Adjustment Method]

- 1) Insert MP type cassette tape.
- 2) Use RV111 to adjust to $4.38 \pm 0.05\text{MHz}$.



Fig. 7-2-19.

(2) L Mode Y FM Deviation Adjustment (VI-121 Board)

Mode	Record and playback
Signal	Color bar (S VIDEO)
Measurement point	S Video Line Output, Y Signal terminal
Measuring instrument	Oscilloscope
Adjustment element	RV110
Specified value	Playback level should be at $1.00 \pm 0.05\text{Vp-p}$.

[Adjustment Method]

- 1) Insert MP type cassette tape.
- 2) Record color bar signal.
- 3) Play back the recorded signal.
- 4) Check the playback output level.
Specification: $1.00 \pm 0.05\text{Vp-p}$
- 5) If the specification is not met, rotate RV110 as directed below and then repeat Steps 1) to 4).

	Direction of Rotating RV110
Over specified value	Counterclockwise (\curvearrowright)
Below specified value	Clockwise (\curvearrowleft)

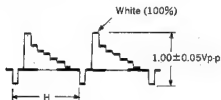


Fig. 7-2-20.

2-5-8. E Mode Y FM Carrier Frequency, Y FM Deviation Adjustment

Note 1: When performing this adjustment, it is a prerequisite that "2-5-7. L Mode FM Carrier Frequency, Y FM Deviation Adjustment" has been completed.

Note 2: The S Video Line output terminal should be terminated at 75Ω .

(1) E Mode Y FM Carrier Frequency Adjustment (VI-121 Board)

Mode	E-E
Signal	No signal (select Line in)
Measurement point	IC105 pin ⑧ (Y RF OUT)
Measuring instrument	Frequency counter Oscilloscope
Adjustment element	RV109
Specified value	$5.96 \pm 0.05\text{MHz}$

Note: A frequency counter should be connected through a buffer amplifier (oscilloscope, etc.) having a high impedance and a low capacitance.

[Adjustment Method]

- 1) Insert ME type cassette tape.
- 2) Use RV109 to adjust to $5.96 \pm 0.05\text{MHz}$.

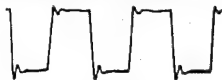


Fig. 7-2-21.

(2) E Mode Y FM Deviation Adjustment (VI-121 Board)

Mode	Record and playback
Signal	Color bar (S VIDEO)
Measurement point	S Video Line Output, Y Signal terminal
Measuring instrument	Oscilloscope
Adjustment element	RV108
Specified value	Playback level should be at $1.00 \pm 0.05 \text{ Vp-p}$.

[Adjustment Method]

- 1) Insert ME type cassette tape.
- 2) Record color bar signal.
- 3) Play back the recorded signal.
- 4) Check the playback output level.
Specification: $1.00 \pm 0.05 \text{ Vp-p}$
- 5) If the specification is not met, rotate RV108 as directed below and then repeat Steps 1) to 4).

	Direction of Rotating RV108
Over specified value	Counterclockwise (\odot)
Below specified value	Clockwise (\ominus)

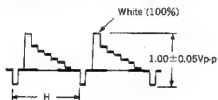


Fig. 7-2-22.

2-5-9. Chroma Emphasis Adjustment (VI-121 Board)

Mode	E-E
Signal	Color bar
Measurement point	IC105 pin ⑧ (B.EMPH ①)
Measuring instrument	Oscilloscope
Adjustment element	RV113
Specified value	f0 component should be reduced to a minimum.

[Adjustment Method]

- 1) Adjust RV113 to allow the latter half of the yellow component in the chroma signal to have a minimum amplitude.

Allow the latter half of the yellow component to have a minimum amplitude.

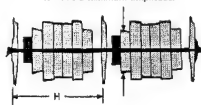


Fig. 7-2-23.

2-5-10. L Mode De-emphasis Level Adjustment (VI-121 Board)

Mode	Playback
Signal	Alignment tape: For operation check, color bar portion (WR5-5CSP)
Measurement point	IC105 pin ⑩ (Y CCD OUT)
Measuring instrument	Oscilloscope
Adjustment element	RV102
Specified value	$0.50 \pm 0.05 \text{ Vp-p}$

[Adjustment Method]

- 1) Use RV102 to adjust to $0.50 \pm 0.05 \text{ Vp-p}$.



Fig. 7-2-24.

2-5-11. L Mode Playback Level Adjustment (VI-121 Board)

Mode	Playback
Signal	Alignment tape: For operation check, color bar portion (WR5-5CSP)
Measurement point	CN101 pin ⑧ (DI Y (X))
Measuring instrument	Oscilloscope
Adjustment element	RV105
Specified value	$1.00 \pm 0.01 \text{ Vp-p}$

[Adjustment Method]

- 1) Use RV105 to adjust to $1.00 \pm 0.01 \text{ Vp-p}$.



Fig. 7-2-25.

2-5-12. E Mode De-emphasis Level Adjustment (VI-121 Board)

Mode	Playback
Signal	Alignment tape: For operation check, color bar portion (WR5-8CSE)
Measurement point	IC105 pin ⑩ (Y CCD OUT)
Measuring instrument	Oscilloscope
Adjustment element	RV101
Specified value	$0.50 \pm 0.05 \text{ Vp-p}$

[Adjustment Method]

- 1) Use RV101 to adjust to $0.50 \pm 0.05 \text{ Vp-p}$.



Fig. 7-2-26.

2-5-13. E Mode Playback Level Adjustment (VI-121 Board)

Mode	Playback
Signal	Alignment tape: For operation check, color bar portion (WR5-8CSE)
Measurement point	CN101 pin ⑧ (DI Y (X))
Measuring instrument	Oscilloscope
Adjustment element	RV104
Specified value	$1.00 \pm 0.01 \text{ Vp-p}$

[Adjustment Method]

- 1) Use RV104 to adjust to $1.00 \pm 0.01 \text{ Vp-p}$.



Fig. 7-2-27.

2-5-14. Recording Chroma Level Pre Adjustment (VI-121 Board)

Mode	E-E
Signal	Color bar
Measurement point	Q701 (Emitter)
Measuring instrument	Oscilloscope
Adjustment element	RV705
Specified value	$140 \pm 10 \text{ mVp-p}$

[Adjustment Method]

- 1) Insert ME type cassette tape.
- 2) Use RV705 to adjust to $140 \pm 10 \text{ mVp-p}$.

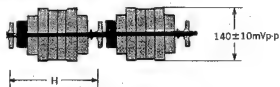


Fig. 7-2-28.

2-5-15. Recording Y Level Adjustment (VI-121 Board)

Mode	E-E
Signal	No signal (select Line in)
Measurement point	CN105 pin ⑩ (REC Y/C (X))
Measuring instrument	Oscilloscope (20MHz bandwidth)
Adjustment element	RV701
Specified value	$650 \pm 10 \text{mVp-p}$

Note: Set an oscilloscope to 20MHz bandwidth.

[Adjustment Method]

- 1) Insert ME tape.
- 2) Use RV701 to adjust to $650 \pm 10 \text{mVp-p}$.



Fig. 7-2-29.

2-5-16. L Mode Recording Chroma Level Adjustment (VI-121 Board)

Mode	E-E
Signal	Color bar
Measurement point	CN105 pin ⑩ (REC RF)
Measuring instrument	Oscilloscope
Adjustment element	RV702
Specified value	$90 \pm 10 \text{mVp-p}$

[Adjustment Method]

- 1) Connect between emitter and collector (+B) of Q716.
- 2) Insert MP type cassette tape.
- 3) Adjust RV702 so that the flat portion of the chroma signal red component has the level $90 \pm 10 \text{mVp-p}$.
- 4) After this adjustment, remove to connect.

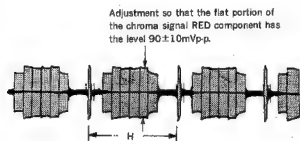


Fig. 7-2-30.

2-5-17. E Mode Recording Chroma Level Adjustment (VI-121 Board)

Mode	Record
Signal	Color bar
Measurement point	CN105 pin ⑩ (REC RF)
Measuring instrument	Oscilloscope
Adjustment element	RV703
Specified value	$140 \pm 10 \text{mVp-p}$

[Adjustment Method]

- 1) Connect between emitter and collector (+B) of Q716.
- 2) Insert ME type cassette tape.
- 3) Record color bar signal.
- 4) Adjust RV703 so that the flat portion of the chroma signal red component has the level $140 \pm 10 \text{mVp-p}$.
- 5) After this adjustment, remove to connect.

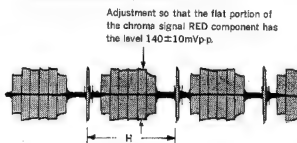


Fig. 7-2-31.

2-5-18. Y/Chroma Adjustment (WC-10 Board)

Mode	Playback
Signal	Alignment tape: For operation check, color bar portion (WR5-5CSP)
Measurement point	Y Signal: CN002 pin ③ C Signal: CN002 pin ④
Measuring instrument	Oscilloscope
Adjustment element	RV003
Specified value	$0 \pm 50\text{nS}$

[Adjustment Method]

- 1) Connect CH1 of an oscilloscope with CN002 pin ③ and CH2 with CN002 pin ④.
- 2) Match waveform on CH1 with waveform on CH2, and use RV003 to adjust so that Y coincides with C at point a.

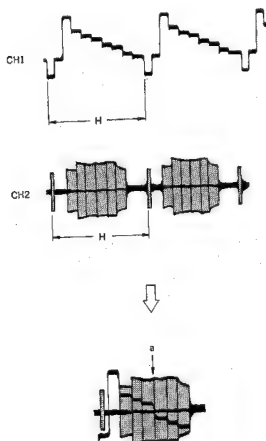


Fig. 7-2-32.

2-5-19. Carrier Leak Adjustment (WC-10 Board)

Mode	Playback
Signal	Alignment tape: For operation check, color bar portion (WR5-5CSP)
Measurement point	Video Line Output terminal
Measuring instrument	Vector scope
Adjustment element	RV001 RV002
specified value	Adjust the carrier to the center.

[Adjustment Method]

- 1) Use RV001 and RV002 to adjust so that the carrier is in the center of the scope.

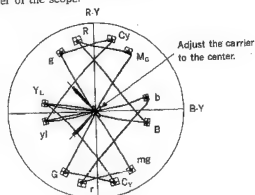


Fig. 7-2-33.

2-6. SECAM-PAL CONVERSION SYSTEM ADJUSTMENTS

- Make this adjustment aligning the PAL video system.
- For this adjustment, use the equipment listed below.

2-6-1. Equipment Required

- (1) PAL colour Monitor TV
- (2) Oscilloscope, Dual-trace, Bandwidth ... more than 30MHz with delay mode
- (3) SECAM colour-bar generator
- (4) PAL vector scope
- (5) Frequency counter
- (6) Digital voltmeter

2-6-2. Setting up during adjustment

Video signals output by a pattern generator are used as adjustment signals when making the electrical adjustments, and these video output signals should be within the required standard. Connect an oscilloscope to the Video input terminal. Check that the amplitudes of video signal SYNC signals, picture portions, and line ID signals are flat at approximately 0.3, 0.7, and 0.3V, respectively. Fig. 7-2-34. shows video signals (colour bars) used in making the electrical adjustment.

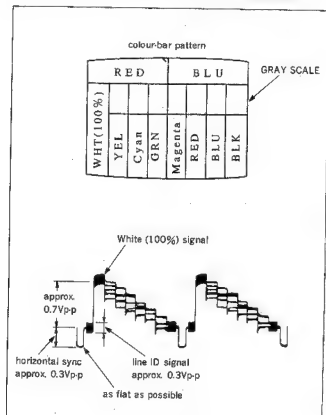


Fig. 7-2-34.

[Adjustment sequence]

1. Bell Filter Adjustment
2. VCO Adjustment
3. I REF Adjustment
4. B-Y fo Adjustment
5. R-Y fo Adjustment
6. Color level Adjustmont

2-6-3. Bell Filter Adjustment (TC-30 Board)

Mode	E-E
Signal	SECAM color bar
Measurement point	IC003 pin ② (CL022)
Measuring instrument	Oscilloscope
Adjustment element	LV001
Specified value	20mVp-p or less

[Adjustment Method]

- 1) Use LV001 to adjust to 20mVp-p or less.

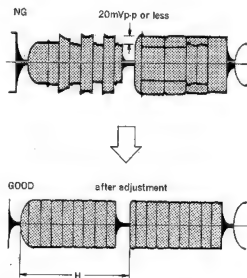


Fig. 7-2-35.

2-6-4 VCO Adjustment (TC-30 Board)

Mode	E-E
Signal	SECAM color bar
Measurement point	IC003 pin ⑨ (HD OUT) (CL026)
Measuring instrument	Oscilloscope Frequency counter
Adjustment element	RV001
Specified value	$15.625 \pm 0.01 \text{ kHz}$

[Connection]

- 1) Connect between pin ⑨ and pin ⑩ of IC003 with a jumper wire.

[Adjustment Method]

- 1) Use RV001 to adjust to $15.625 \pm 0.01 \text{ kHz}$.
- 2) After this adjustment, open the shorted pin.

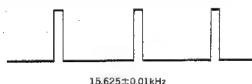


Fig. 7-2-36.

2-6-5. I REF Adjustment (TC-30 Board)

Mode	E-E
Signal	SECAM color bar
Measurement point	IC003 pin ⑨ (HD OUT) (CL026) CN001 pin ④ (VI Y)
Measuring instrument	Oscilloscope
Adjustment element	RV002
Specified value	$4.5 \pm 0.1 \mu \text{sec}$

[Adjustment Method]

- 1) Use RV002 to adjust to $4.5 \pm 0.1 \mu \text{sec}$.



Fig. 7-2-37.

2-6-6. B-Y to Adjustment (TC-30 Board)

Mode	E-E
Signal	SECAM color bar
Measurement point	IC004 pin ③ (B-Y) (CL032)
Measuring instrument	Oscilloscope
Adjustment element	LV003
Specified value	0.05 Vp-p or less

[Connection]

- 1) Connect between pin ⑨ and pin ⑩ of IC003 with a jumper wire.

[Adjustment Method]

- 1) Use LV003 to adjust to 0.05 Vp-p or less.
(Set a blank level by the black level.)
- 2) After this adjustment, open the shorted pin.

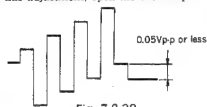


Fig. 7-2-38.

2-6-7. R-Y to Adjustment (TC-30 Board)

Mode	E-E
Signal	SECAM color bar
Measurement point	IC004 pin ② (R-Y) (CL033)
Measuring instrument	Oscilloscope
Adjustment element	LV002
Specified value	0.05 Vp-p or less

[Connection]

- 1) Connect between pin ⑨ and pin ⑩ of IC003 with a jumper wire.

[Adjustment Method]

- 1) Use LV002 to adjust to 0.05 Vp-p or less.
(Set a blank level by the black level.)
- 2) After this adjustment, open the shorted pin.

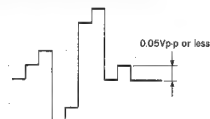


Fig. 7-2-39.

2-6-8. Color Level Adjustment (TC-30 Board)

Mode	E-E
Signal	SECAM color bar
Measurement point	IC004 pin ⑤ (B-Y) (CL032)
Measuring instrument	Oscilloscope
Adjustment element	RV003
Specified value	$750 \pm 50 \text{mVp-p}$

[Connection]

- 1) Connect between pin ⑤ and pin ④ of IC003 with a jumper wire.

[Adjustment Method]

- 1) Use RV003 to adjust to $750 \pm 50 \text{mVp-p}$.
- 2) After this adjustment, open the shorted pin.

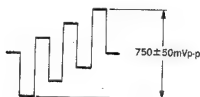


Fig. 7-2-40.

2-7. DIGITAL SYSTEM ADJUSTMENTS

The adjustments provided in Digital System Adjustments should be performed in the following sequence.

[Adjustment sequence]

1. AFC Adjustment
2. APC Adjustment
3. Read Clock (YRCK) Adjustment
4. Read Clock (CRCK) Adjustment
5. Y Output Level Adjustment

2-7-1. AFC Adjustment (DI-51 Board)

Mode	Playback
Signal	Alignment tape: For operation check (WR5-5CSP or WR5-8CSE)
Measurement point	IC800 pin ⑦ (YWCK) (CL820 or CL821)
Measuring instrument	Frequency counter
Adjustment element	CV800
Specified value	$14218.750 \pm 50 \text{kHz}$

Note: A frequency counter should be connected through a buffer amplifier (oscilloscope, etc.) having a high impedance and a low capacitance.

[Connection]

- 1) Connect between pin ⑤ (VSIN) and pin ⑧ (VDD) of IC800 by inserting $10 \text{k}\Omega$ (1-249-429-11). (This will make AFC free running.)
- 2) Short between pin ⑩ (PWM) and pin ⑪ (PEO) of IC800.

[Adjustment Method]

- 1) Use CV800 to adjust to $14218.750 \pm 50 \text{kHz}$.
- 2) After this adjustment, perform the following check.

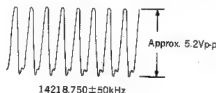


Fig. 7-2-41.

[Connection]

- 1) Remove the resistor inserted between pin ⑤ (VSIN) and pin ⑧ (VDD) of IC800. (This will enter the AFC mode.)
- 2) Open between pin ⑩ (PWM) and pin ⑪ (PEO) of IC800.
- 3) Check the waveform at the following measuring points.

●(RPD) Waveform Check

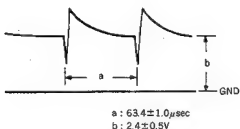
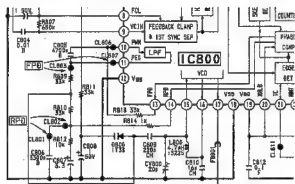


Fig. 7-2-42.

●(FPD) Waveform Check

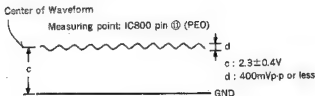


Fig. 7-2-43.

●(AFH) Waveform Check

Measuring point : CH-1 IC800 pin ② (AFH)
CH-2 CN100 pin ④ (VI Y (X))



Fig. 7-2-44.

2-7-2. APC Adjustment (DI-51 Board)

Mode	Playback
Signal	Alignment tape: For operation check (WR5-5CSP or WR5-8CSE)
Measurement point	IC300 pin ⑤ (CWCK)
Measuring instrument	Frequency counter
Adjustment element	CV300
Specified value	$14734475 \pm 50 \text{Hz}$

Note: A frequency counter should be connected through a buffer amplifier (oscilloscope, etc.) having a high impedance and a low capacitance.

[Connection]

- 1) Open pin ② (VI C (X)) of CN100.
- 2) Connect between CL252 (Q253 (E)) and GND by inserting $0.01 \mu\text{F}$ capacitor (1-102-129-11).

[Adjustment Method]

- 1) Use CV300 to adjust to $14734475 \pm 50 \text{Hz}$.
- 2) After this adjustment, perform the following check.



Fig. 7-2-45.

[Connection]

- 1) Remove the capacitor inserted between CL252 (Q253 (E)) and GND.
- 2) Connect pin ② (VI C (X)) of CN100. (This will enter the APC mode.)
- 3) Check the waveform at pin ⑤ of IC300.

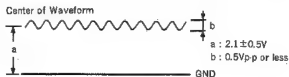
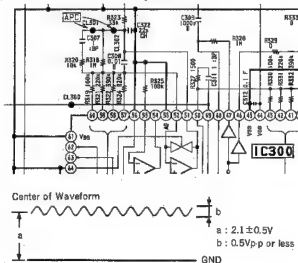


Fig. 7-2-46.

2-7-3. Read Clock (YRCK) Adjustment (DI-51 Board)

Mode	Playback
Signal	Alignment tape: For operation check (WR5-5CSP or WR5-8CSE)
Measurement point	IC500 pin ① (YWCK) (CL504 or CL505)
Measuring instrument	Frequency counter
Adjustment element	CV500
Specified value	14218750 \pm 200Hz

Note: A frequency counter should be connected through a buffer amplifier (oscilloscope, etc.) having a high impedance and a low capacitance.

[Adjustment Method]

- 1) Use CV500 to adjust to 14218750 \pm 200Hz.

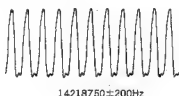


Fig. 7-2-47.

2-7-4. Read Clock (CRCK) Adjustment (DI-51 Board)

Mode	Playback
Signal	Alignment tape: For operation check (WR5-5CSP or WR5-8 CSE)
Measurement point	IC600 pin ⑥ (CRCK) (CL600 or CL601)
Measuring instrument	Frequency counter
Adjustment element	CV600
Specified value	17734475 \pm 100Hz

Note: A frequency counter should be connected through a buffer amplifier (oscilloscope, etc.) having a high impedance and a low capacitance.

[Adjustment Method]

- 1) Use CV600 to adjust to 17734475 \pm 100Hz.

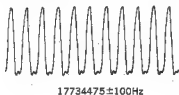


Fig. 7-2-48.

2-7-5. Y Output Level Adjustment (DI-51 Board)

Note: For this Adjustment, the sequence of adjustments (1) and (2) should be performed twice.

- (1) D/A Amplifier Gain Adjustment

Mode	Playback
Signal	Alignment tape: For operation check, color bar portion (WR5-5CSP or WR5-8CSE)
Measurement point	CN100 pin ④ (DI Y)
Measuring instrument	Oscilloscope
Adjustment element	RV700
Specified value	240 \pm 10mV

[Adjustment Method]

- 1) Adjust RV700 so that the center of the pedestal level is 240 \pm 10mV above from the center of the sync tip level.



Fig. 7-2-49.

(2) A/D Amplifier Gain Adjustment

Mode	Playback
Signal	Alignment tape: For operation check, color bar portion (WR5-5CSP or WR5-8CSE)
Measurement point	CN100 pin ⑪ (DI Y)
Measuring instrument	Oscilloscope
Adjustment element	RV200
Specified value	$760 \pm 10 \text{ mV}$

[Adjustment Method]

- 1) Adjust RV200 so that the center of the pedestal level is $760 \pm 10 \text{ mV}$ above from the center of sync tip level.

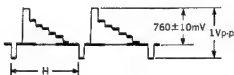


Fig. 7-2-50.

2-8. CHARACTER GENERATOR SYSTEM CHECK

2-8-1. CG OSC CHECK (MA-173 Board)

Mode	Record
Signal	Arbitrary
Measurement point	1C705 pin ⑤ (EXD)
Measuring instrument	Frequency counter
Specified value	$6.85 \pm 0.05 \text{ MHz}$

Note: A frequency counter should be connected through a buffer amplifier (oscilloscope, etc.) having a high impedance and a low capacitance.

[CHECK Method]

- 1) Check to $6.85 \pm 0.05 \text{ MHz}$.

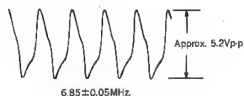


Fig. 7-2-51.

2-9. PCM AUDIO SYSTEM ADJUSTMENTS

Color bar signal should be used as Video signal input for performing this adjustment.

[Connection of Equipment for Audio Measurement]

In addition to equipment for video measurement, equipment for audio system measurement should be connected as illustrated below.

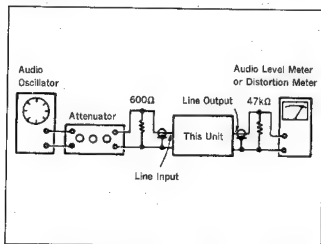


Fig. 7-2-52.

Unless otherwise specified, place the switches and controls of this unit in the following positions:

- Input Select switch LINE 3
 - Audio Monitor (PCM/MIX/STD) switch PCM
- The adjustments should be performed in the following sequence.

[Adjustment sequence]

1. Master Clock Adjustment
2. Recording Level Adjustment
3. Offset Adjustment
4. Playback VCO Check
5. Playback Level Adjustment
6. E-E Output Level Check
7. Overall Frequency Characteristic Check
8. Overall Distortion Factor Check
9. Overall Noise Level Check

2-9-1. Master Clock Adjustment (PC-61 Board)

Mode	Record
Signal	Arbitrary
Measurement point	IC703 pin ⑩ (MCK 1)
Measuring instrument	Frequency counter
Adjustment element	CV701
Specified value	$11.50 \pm 0.05\text{MHz}$

Note 1 : A frequency counter should be connected through a buffer amplifier (oscilloscope, etc.) having a high impedance and a low capacitance.

[Connection]

- 1) Short between pin ⑩ (TST 4) and pin ⑩ (A VDD) of IC703.
- 2) Short between pin ⑩ (TST 0) and pin ⑩ (VSS) of IC703.
- 3) Short between pin ⑩ (LPF Y) and pin ⑩ (LPF X) of IC703.

[Adjustment Method]

- 1) Use CV701 to adjust to $11.50 \pm 0.05\text{MHz}$.

Note 2 : After this adjustment, open the shorted pins.

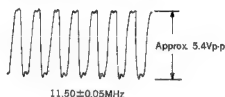


Fig. 7-2-53.

2-9-2. Recording Level Adjustment (PC-61 Board)

Mode	Record
Signal	400Hz, -7.5dBs
Measurement point	Audio Line Output terminals, left and right
Measuring instrument	Audio level meter
Adjustment element	RV703
Specified value	Left side: $-7.5 \pm 0.5\text{dBs}$ Right side: $\pm 1.5\text{dBs}$ with respect to left side level

[Adjustment Method]

- 1) Adjust RV703 so that the left side level is at $-7.5 \pm 0.5\text{dBs}$.
- 2) At this time, check that the right level is within $\pm 1.5\text{dBs}$ of the left side level.

2-9-3. Offset Adjustment (PC-61 Board)

Mode	Self-record playback
Signal	400Hz, +3dBs
Measurement point	Left side: IC701 pin ② Right side: IC701 pin ④
Measuring instrument	Oscilloscope
Adjustment element	Left side: RV701 Right side: RV702
Specified value	Top and bottom clips observed on waveform should be equal with each other.

[Adjustment Method]

- 1) Record signal.
- 2) Play back the recorded portion.
- 3) Check that the clip at the top is equal with the clip at the bottom of the waveform observed.
- 4) If not equal, rotate the RV701 on the left side and RV702 on the right side as directed below. Then, repeat Steps 1) to 3) to check for the clip.

	Direction of Rotating RV701 or RV702
Top clip less	Counterclockwise (\circlearrowleft)
Top clip more	Clockwise (\circlearrowright)

Note: In this adjustment, the left and right sides will be affected by each other. Alternately adjust the left and right sides.

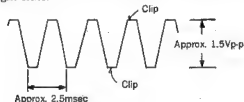


Fig. 7-2-54.

2-9-4. Playback VCO Check (PC-61 Board)

Mode	Playback, Fast Forward Search, Rewind Search
Signal	Arbitrary tape (Tape which does not contain PCM signal.)
Measurement point	CN703 pin ② (PB VCO)
Measuring instrument	Frequency counter
Specified value	Playback : 11.50 ± 0.05 MHz Fast Forward Search: 11.59 ± 0.05 MHz Rewind Search : 12.20 ± 0.05 MHz FF : 11.98 ± 0.05 MHz REW : 12.20 ± 0.05 MHz

Note 1: A frequency counter should be connected through a buffer amplifier (oscilloscope, etc.) having a high impedance and a low capacitance.

[Connection]

- 1) Connect pin ① (TEST) of CN703 to 5V.

[Adjustment Method]

- 1) Use the remote commander to enter the Playback mode.
- 2) Check to 11.50 ± 0.05 MHz.
- 3) Use the remote commander to execute Fast Forward Search. (Press SERACH on "Fast Forward" side.)
- 4) Check to 11.59 ± 0.05 MHz.
- 5) Use the remote commander to execute Rewind Search. (Press SERACH on "Rewind" side.)
- 6) Check to 12.20 ± 0.05 MHz.
- 7) Use the remote commander to enter the FF mode.
- 8) Check to 11.98 ± 0.05 MHz.
- 9) Use the remote commander to enter the REW mode.
- 10) Check to 12.20 ± 0.05 MHz.

Note 2: After this adjustment, open pin ① of CN703.



During Playback	: 11.50 ± 0.05 MHz
During Fast Forward Search	: 11.59 ± 0.05 MHz
During Rewind Search	: 12.20 ± 0.05 MHz
During FF	: 11.98 ± 0.05 MHz
During REW	: 12.20 ± 0.05 MHz

Fig. 7-2-55.

2-9-5. Playback Level Adjustment (PC-61 Board)

Mode	Playback
Signal	Alignment tape: For operation check, 400Hz portion (WR5-9CS)
Measurement point	Audio Line Output terminal, left and right
Measuring instrument	Audio level meter
Adjustment element	RV705
Specified value	Left side: $-7.5 \pm 0.3\text{dBs}$ Right side: $\pm 1.5\text{dBs}$ with respect to left side level

[Adjustment Method]

- 1) Adjust RV705 so that the left side level is at $-7.5 \pm 0.3\text{dBs}$.
- 2) At this time, check that the right level is within $\pm 1.5\text{dBs}$ of the left side level.

2-9-6. E-E Output Level Check

Mode	E-E
Signal	400Hz, -7.5dBs
Measurement point	Audio Line Output terminals, left and right
Measuring instrument	Audio level meter
Specified value	$-7.5 \pm 3\text{dBs}$

[Check Method]

- 1) Place the Recording Level control in ⑤ position.
- 2) Check that the indicated value of a peak level meter is -3 to $+3\text{dBs}$.
- 3) Check that the respective levels of Audio Line Output terminals, left and right are $-7.5 \pm 3\text{dBs}$.

2-9-7. Overall Frequency Characteristic Adjustment

Mode	Self-record playback
Signal	④ 400Hz, -7.5dBs ② 20Hz, -7.5dBs ③ 14kHz, -7.5dBs : Audio Line Input terminals, left and right
Measurement point	Audio Line Output terminals, left and right
Measuring instrument	Audio level meter
Specified value	The playback output levels of 20Hz and 14kHz should be $0 \pm 3\text{dBs}$ with 400Hz playback output level at 0dBs .

[Check Method]

- 1) Record signals ② to ④ in turn.
- 2) Play back the recorded portion.
- 3) Check that the respective playback output levels of 20Hz and 14kHz are $0 \pm 3\text{dBs}$ with 400Hz playback output level at 0dBs .

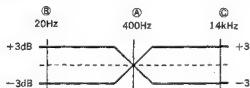


Fig. 7-2-56.

2-9-8. Overall Distortion Factor Check

Mode	Self-record playback
Signal	400Hz, -7.5dBs : Audio Line Input terminals, left and right
Measurement point	Audio Line Output terminals, left and right
Measuring instrument	Distortion meter
Specified value	0.35% or less

[Check Method]

- 1) Record signal.
- 2) Play back the recorded portion.
- 3) Check that the distortion factor is 0.35% or less.

2-9-9. Overall Noise Level Check

Mode	Self-record playback
Signal	No signal (Insert a shorting plug into the Audio Line Input jacks, left and right.)
Measurement point	Audio Line Output terminals, left and right
Measuring instrument	Audio level meter
Specified value	-82dBs or less Note

[Check Method]

- 1) Record.
- 2) Play back recorded portion.
- 3) Check that the noise level is -82dBs or less.

Note: This is a value when an IHF-A weighing filter is used.

2-10. AFM AUDIO SYSTEM ADJUSTMENTS

Color bar signal should be used as Video signal input for performing this adjustment.

[Connection of Equipment for Audio Measurement]

In addition to equipment for video measurement, the audio measurement equipment should be connected as illustrated below.

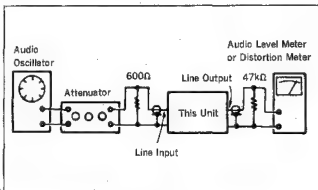


Fig. 7-2-57.

Unless otherwise specified, place the switches and controls of this unit in the following positions:

- Input Select switch LINE 3
- Audio Monitor (PCM/MIX/STD) switch STD

The adjustments should be performed in the following sequence.

[Adjustment sequence]

1. Carrier Frequency 1.5MHz Check
2. Carrier Frequency 1.7MHz Check
3. 1.5MHz Deviation Adjustment
4. 1.7MHz Deviation Adjustment
5. Playback Separation 2 Adjustment
6. Playback Separation 1 Adjustment
7. E-E Output Level Check
8. Overall Frequency Characteristic Check
9. Overall Distortion Factor Check
10. Overall Noise Check

2-10-1. Carrier Frequency 1.5MHz Check (MA-173 Board)

Mode	Record
Signal	No signal
Measurement point	IC501 pin ③ (VCO OUT)
Measuring instrument	Frequency counter
Specified value	$1500 \pm 3\text{kHz}$

Note 1: A frequency counter should be connected through a buffer amplifier (oscilloscope, etc.) having a high impedance and a low capacitance.

[Check Method]

- 1) Check to $1500 \pm 3\text{kHz}$.



Fig. 7-2-58.

2-10-2. Carrier Frequency 1.7MHz Check (MA-173 Board)

Mode	Record
Signal	No signal
Measurement point	IC501 pin ③ (VCO OUT)
Measuring instrument	Frequency counter
Specified value	$1700 \pm 3\text{kHz}$

Note 1: A frequency counter should be connected through a buffer amplifier (oscilloscope, etc.) having a high impedance and a low capacitance.

[Check Method]

- 1) Check to $1700 \pm 3\text{kHz}$.

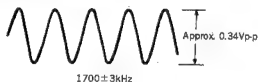


Fig. 7-2-59.

2-10-3. 1.5MHz Deviation Adjustment (MA-173 Board)

Mode	Playback
Signal	Alignment tape: For operation check (WR5-9CS)
Measurement point	Audio Line Output terminal, left
Measuring instrument	Audio level meter
Adjustment element	RV501
Specified value	$-7.5 \pm 0.5\text{dB}$

[Adjustment Method]

- 1) Use RV501 to adjust to $-7.5 \pm 0.5\text{dB}$.

2-10-4. 1.7MHz Deviation Adjustment (MA-173 Board)

Mode	Playback
Signal	Alignment tape: For operation check (WR5-9CS)
Measurement point	Audio Line Output terminal, right
Measuring instrument	Audio level meter
Adjustment element	RV502
Specified value	$-7.5 \pm 0.5\text{dB}$

[Adjustment Method]

- 1) Use RV502 to adjust to $-7.5 \pm 0.5\text{dB}$.

2-10-5. Playback Separation 2 Check (MA-173 Board)

Mode	Playback
Signal	Alignment tape: For operation check, stereo portion (WR5-9CS)
Measurement point	Audio Line Output terminal, right
Measuring instrument	Oscilloscope
Specified value	400Hz component minimum (no distortion should be present on 1kHz waveform.)

[Check Method]

- 1) Check that 400Hz component on the right level is at minimum.

2-10-6. Playback Separation 1 Check (MA-173 Board)

Mode	Playback
Signal	Alignment tape: For operation check, stereo portion (WR5-9CS)
Measurement point	Audio Line Output terminal, left
Measuring instrument	Oscilloscope
Specified value	1kHz component minimum (no distortion should be present on 400Hz waveform.)

[Check Method]

- 1) Check that 1kHz component on the left level is at minimum.

2-10-7. E-E Output Level Check

Mode	E-E
Signal	400Hz, -7.5dB s
Measurement point	Audio Line Output terminals, left and right
Measuring instrument	Audio level meter
Specified value	$-7.5 \pm 3\text{dB}$ s

[Check Method]

- 1) Check that the indicated value of a peak level meter is -3 to $+3\text{dB}$ s.
- 2) Check that the respective levels of Audio Line Output terminals, left and right are $-7.5 \pm 3\text{dB}$ s.

2-10-8. Overall Frequency Characteristic Check

Mode	Self-record playback
Signal	Ⓐ 400Hz, -17.5dB s Ⓑ 20Hz, -17.5dB s Ⓒ 14kHz, -17.5dB s : Audio Line Input terminals, left and right
Measurement point	Audio Line Output terminals, left and right
Measuring instrument	Audio level meter
Specified value	The playback output level is 0dB at 400Hz, check that it is $-3 \pm 3\text{dB}$ at 20Hz and $0 \pm 3\text{dB}$ at 14kHz.

[Check Method]

- 1) Record signals Ⓐ to Ⓒ in turn.
- 2) Play back the recorded portion.
- 3) When the playback output level is 0dB at 400Hz, check that it is $-3 \pm 3\text{dB}$ at 20Hz and $0 \pm 3\text{dB}$ at 14kHz.

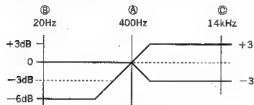


Fig. 7-2-60.

2-10-9. Overall Distortion Factor Check

Mode	Self-record playback (Bilingual mode)
Signal	400Hz, -7.5dBs : Audio Line Input terminals, left and right
Measurement point	Audio Line Output terminals, left and right
Measuring instrument	Distortion meter
Specified value	Left side: 1.0% or less <i>Note</i> Right side: 1.5% or less <i>Note</i>

[Check Method]

- 1) Record signal.
- 2) Play back the recorded portion.
- 3) Check that the distortion factor is 1.0% or less on the left side and 1.5% or less on the right side *Note*.

Note: These are values when a 200Hz - 6kHz BPF is used.



Fig. 7-2-61.

2-10-10. Overall Noise Level Check

Mode	Self-record playback
Signal	No signal (Insert a shorting plug into the Audio Line Input jacks, left and right.)
Measurement point	Audio Line Output terminals, left and right
Measuring instrument	Audio level meter
Specified value	Left side: -68dBs or less <i>Note</i> Right side: -68dBs or less <i>Note</i>

[Check Method]

- 1) Record.
- 2) Play back recorded portion.
- 3) Check that the noise level is -68dBs or less on the left side and -68dBs on the right side.

Note: These are values when an IHF-A weighing filter is used.

2-11. TUNER SYSTEM ADJUSTMENTS

This adjustment should be made in the VHF/UHF Broadcasting Listening mode.

The adjustments should be made in the following sequence.

[Adjustment sequence]

1. 30V Voltage Check
2. AGC Adjustment
3. Separation Adjustment

2-11-1. 30V Voltage Check (TU-145 Board)

Signal	Arbitrary
Measurement point	Q901 (Emitter)
Measuring instrument	Digital voltmeter
Specified value	31.3±1.5V

[Check Method]

- 1) Check to 31.3±1.5V

2-11-2. AGC Adjustment (TU-145 Board)

Mode	E-E
Signal	TV signal (62dBμ)
Measurement point	IF001 pin ①
Measuring instrument	Digital voltmeter
Adjustment element	AGC VR (IF901)
Specified value	6±0.5V

[Adjustment Method]

- 1) Use AGC VR to adjust the voltage value to 6±0.5V.
- 2) When the TV signal input is changed from 58dB to 62dB, check that the voltage at TU902 pin ⑦ changes from less than 6.0V to 6.0V or more.

2-11-3. Separation Adjustment (TU-145 Board)

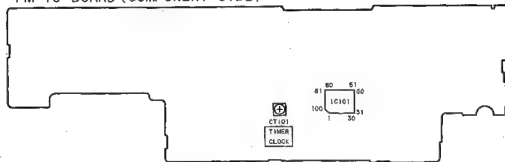
Signal	Stereo L CH: 400Hz, 100% modulated R CH: No modulation
Measurement point	Audio Line Output terminals, left and right
Measuring instrument	Oscilloscope
Adjustment element	RV901

[Adjustment Method]

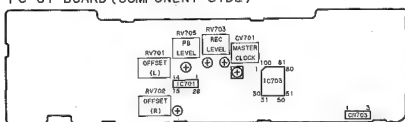
- 1) Set a sound multiplex signal generator to Stereo mode.
Set L CH to 400Hz, 100% modulated.
- 2) Connect an oscilloscope to the R channel of Audio Line Output.
- 3) Adjust RV901 so that R CH output is minimized. In this adjustment, Do not rotate RV901 fully.

2-12. ADJUSTING PARTS LOCATION DIAGRAM

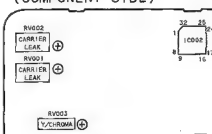
FM-16 BOARD (COMPONENT SIDE)



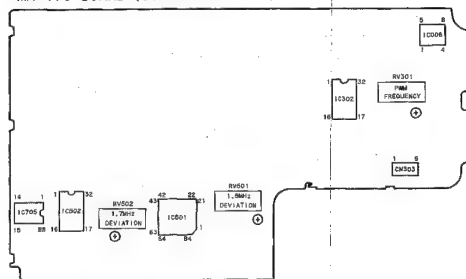
PC-61 BOARD (COMPONENT SIDE)



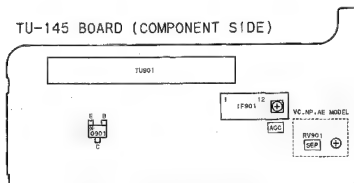
WC-10 BOARD (COMPONENT SIDE)



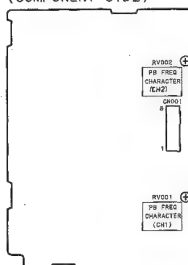
MA-173 BOARD (COMPONENT SIDE)



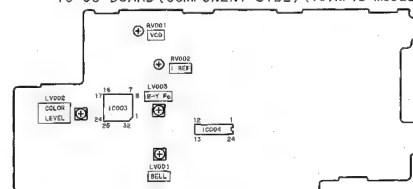
TU-145 BOARD (COMPONENT SIDE)



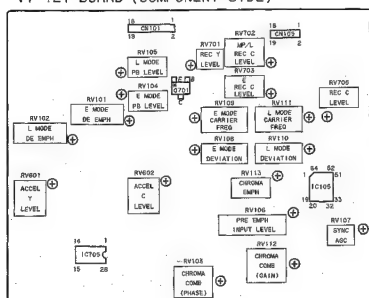
RP-165 BOARD (COMPONENT SIDE)



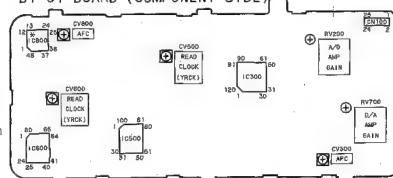
TC-30 BOARD (COMPONENT SIDE) (VC.NP.B MODEL)



VI-121 BOARD (COMPONENT SIDE)



D1-51 BOARD (COMPONENT SIDE)



● Abbreviations
 UB:UK
 AC:Italian
 VC:German
 NP:North European
 B:French

*:PARTS OF REAR SIDE.

EV-S9000E AE/B/E/NP/UB/VC

RMT-138B

SONY SERVICE MANUAL

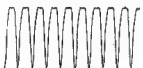
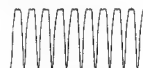
UK(UB) Model
German(VC) Model
Italian(AE) Model
North European(NP) Model
French(B) Model
Singapore(E) Model

CORRECTION-1

Correct your service manual as shown below.

Page 7-27 2-7-2. APC Adjustment (DI-51 Board)

■ : Corrected portion

INCORRECTION	CORRECTION								
2-7-2. APC Adjustment (DI-51 Board)	2-7-2. APC Adjustment (DI-51 Board)								
<table border="1"> <tr> <td>Adjustment element</td><td>CV300</td></tr> <tr> <td>Specified value</td><td>14734475 ± 50Hz</td></tr> </table>	Adjustment element	CV300	Specified value	14734475 ± 50Hz	<table border="1"> <tr> <td>Adjustment element</td><td>CV300</td></tr> <tr> <td>Specified value</td><td>17734475 ± 50Hz</td></tr> </table>	Adjustment element	CV300	Specified value	17734475 ± 50Hz
Adjustment element	CV300								
Specified value	14734475 ± 50Hz								
Adjustment element	CV300								
Specified value	17734475 ± 50Hz								
<p>Note : A frequency counter should be connected through a buffer amplifier (oscilloscope, etc.) having a high impedance and a low capacitance.</p>	<p>Note : A frequency counter should be connected through a buffer amplifier (oscilloscope, etc.) having a high impedance and a low capacitance.</p>								
<p>[Connection]</p>	<p>[Connection]</p>								
<p>1) Open pin ② (VI C (X)) of CN100. 2) Connect between CL252 (Q253 (E)) and GND by inserting 0.01μF capacitor (1-102-129-11).</p>	<p>1) Open pin ② (VI C (X)) of CN100. 2) Connect between CL252 (Q253 (E)) and GND by inserting 0.01μF capacitor (1-102-129-11).</p>								
<p>[Adjustment Method]</p>	<p>[Adjustment Method]</p>								
<p>1) Use CV300 to adjust to 14734475 ± 50Hz. 2) After this adjustment, perform the following check.</p>	<p>1) Use CV300 to adjust to 17734475 ± 50Hz. 2) After this adjustment, perform the following check.</p>								
 <p>14734475 ± 50Hz</p> <p>Fig. 7-2-45.</p>	 <p>17734475 ± 50Hz</p> <p>Fig. 7-2-45.</p>								

EV-S9000E AE/B/E/NP/UB/VC

RMT-138B

SONY SERVICE MANUAL

UK(UB) Model
German(VC) Model
Italian(AE) Model
North European(NP) Model
French(B) Model
Singapore(E) Model

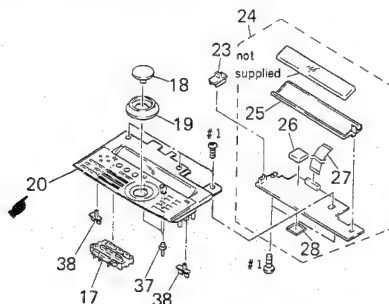
CORRECTION-2

Correct your service manual as shown below.

○ Page 5-2 5-1-1. CABINET AND FRONT PANEL ASSEMBLIES

■ : Corrected portion

INCORRECTION			CORRECTION		
Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
20	X-3944-100-1	HOUSING ASSY (VC)	20	1-467-362-31	SWITCH BLOCK, CONTROL (VC)
20	X-3943-814-1	HOUSING ASSY(NP, AE, UB, B, E)	20	1-467-362-41	SWITCH BLOCK, CONTROL (NP, AE, UB, B, E)



Sony Corporation
Consumer A & V Products Company
Home A & V Products Div.

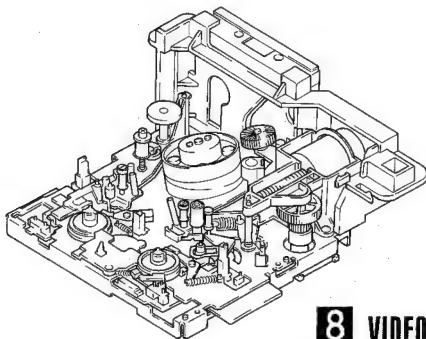
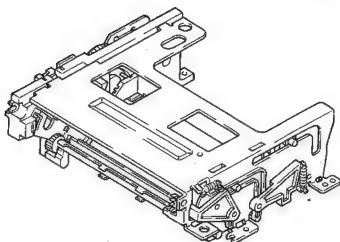
English
94L0470-1

8 mm Video MECHANICAL ADJUSTMENT MANUAL V

F MECHANISM

Video 8

File with the SERVICE MANUAL



8 VIDEO RECORDER
SONY®

TABLE OF CONTENTS

<u>Section</u>	<u>Title</u>	<u>Page</u>	<u>Section</u>	<u>Title</u>	<u>Page</u>
1. MAIN FEATURES		3	4-15.	Loading Drive Lever	25
2. PREPARATION FOR MECHANICAL CHECK, ADJUSTMENT AND REPLACEMENT		4	4-16.	Rotary Switch and Main Cam	26
2-1.	FL Cassette Compartment Assembly	4	4-17.	Slide Plate	27
2-2.	Operation with FL Cassette Compartment Assembly Removed	5	4-18.	Loading Gear (S) Assembly	28
2-2-1.	Activating Loading	5	4-19.	Loading Gear (T) Assembly	29
2-2-2.	Activating Play Status	5	4-20.	Coaster (S)	30
2-2-3.	Activating Ejection	5	4-21.	Coaster (T) Assembly	30
2-3.	Handling of Mode Selector II	6	4-22.	Rotary Upper Drum Replacement	31
2-3-1.	General	6	4-23.	Adjustment of Tension Regulator Position	32
2-3-2.	Operation	7	4-24.	FWD Back Tension Adjustment	32
3. PERIODIC CHECK AND MAINTENANCE		9	4-25.	Reel Torque Check	32
3-1.	Cleaning of Rotary Drum Assembly	9	4-26.	FL Worm Wheel	33
3-2.	Cleanign of Tape Path	9	5. TAPE PATH ADJUSTMENT		34
3-3.	Periodic Check Items	10	5-1.	Preparation for Adjustment	35
3-4.	Service Jigs List	11	5-2.	Tracking Adjustment	36
4. MECHANICAL CHECK, ADJUSTMENT AND REPLACEMENT		12	5-3.	No.2 Guide (TG2) Adjustment	36
4-1.	RP Block	12	5-3-1.	No.2 Guide (TG2) Height Presetting	36
4-2.	Impedance Roller	13	5-3-2.	No.2 Guide (TG2) Adjustment	37
4-3.	HC Roller Assembly	13	5-4.	No.7 Guide (TG7) Adjustment	37
4-4.	Pendulum Base Assembly and Soft Brake Assembly (T)	14	5-5.	CUE and REV Waveform Check	37
4-5.	Brake (S) Arm and Brake (T) Arm Assembly	15	5-6.	Check After Adjustment	38
4-6.	Tension Regulator Assembly, Reel Table (S) Assembly and Reel Table (T) Assembly	16	5-6-1.	Tracking Check	38
4-7.	TG2 Assembly	17	5-6-2.	Rising Check	38
4-8.	TG7 Arm Assembly	18	5-6-3.	Tape Path Check	38
4-9.	Cam Motor Assembly	19	6. EXPLODED VIEWS		39
4-10.	Pinch Arm Assembly	20	6-1.	Front Loading Assembly	39
4-11.	Worm Wheel Bracket	21	6-2.	MD Chassis Assembly (1)	40
4-12.	Capstan Motor	22	6-3.	MD Chassis Assembly (2)	41
4-13.	Drum Assembly	23	6-4.	MD Chassis Assembly (3)	42
4-14.	Pulley Base Assembly	24	7. DIAGRAMS		43
			8. ELECTRICAL PARTS LIST		46

1. MAIN FEATURES

The mechanism developed exclusively for the 8mm video provides the following features.

1. Faster rewind time than U mechanism.
4 times high speed. (about 1 minute in case of P120 cassette.)
2. Jog shuttle supporting by addition of forced swing mechanism.
3. High speed start on Picture mechanism.
Stop → playback about 0.8 sec.
4. Head clogging prevention by adoption of new cleaning roller.
5. Reduction of the number of parts. (about 40 parts less than U mechanism.)
6. FL capstan motor drive.

2. PREPARATION FOR MECHANICAL CHECK, ADJUSTMENT AND REPLACEMENT

For removal of the cabinet and boards, refer to "Disassembly" in each Service Manual.

Mechanical adjustment is done in the **[EJECT]** mode. (To select the **[EJECT]** mode, refer to "2-3, Handling of Mode Selector II".)

2-1. FL CASSETTE COMPARTMENT ASSEMBLY (Fig. 1)

1. Removal

- 1) Select the **[EJECT]** mode.
- 2) Remove three screws ① and remove the FL cassette compartment ② toward the arrow.

2. Mounting

- 1) Select the **[EJECT]** mode.
- 2) Mount the FL cassette compartment ② with its tab ④ engaged with the hole ③ in mechanical chassis.
- 3) Tighten three screws ①.

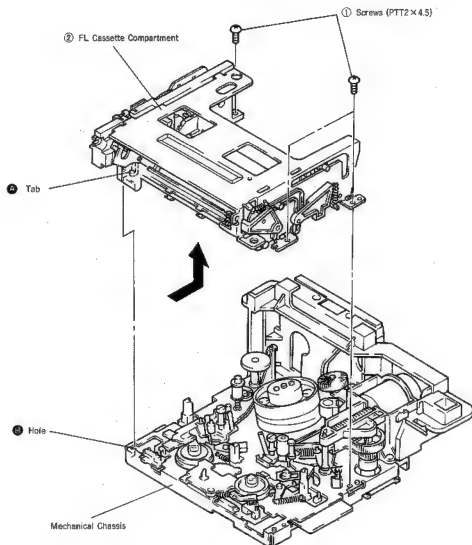


Fig. 1

**2-2. OPERATION WITH FL CASSETTE
COMPARTMENT ASSEMBLY REMOVED (Fig. 2)**

2-2-1. Activating Loading

- 1) Referring to the Service Guide, supply the power with the cabinet removed.
- 2) Cover the LED ① with an opaque cap ②.
- 3) Press the cassette down switch ③ three times.

2-2-2. Activating Play Status

- 1) Perform each step in 2-2-1. Activating Loading.
- 2) Press the PLAY button while keeping the cassette down switch pressed.

2-2-3. Activating Ejection

- 1) Press the EJECT button.

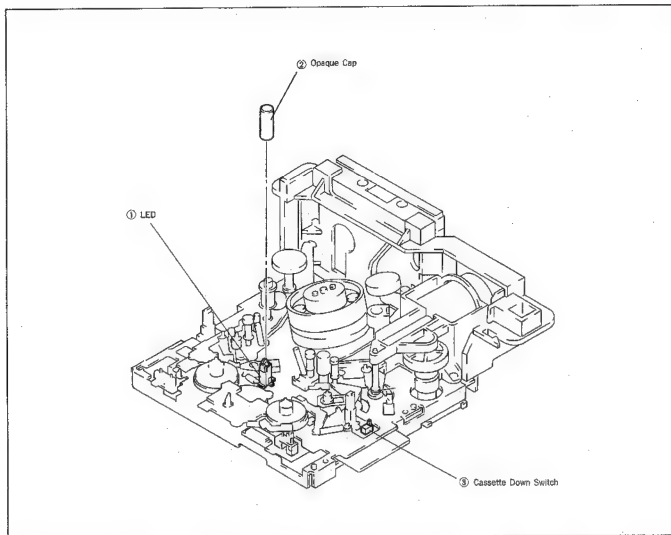


Fig. 2

2-3. HANDLING OF MODE SELECTOR II

2-3-1. General

The mode selector is used as a mechanism drive tool to help maintenance of various mechanical decks, and it provides the following functions.

1. MANUAL test

In this mode, the motor is driven only during the time that the switch is pressed, so that the operator can control the motor freely.

2. STEP test

In this mode, the motor is driven from the present status attained from sensor until the status changes to another status, so that the operator can confirm every operations.

3. AUTO test

This mode checks if the mechanism operates normally following the status change table registered to each mechanical deck through a sequence of operation in all statuses of the mechanism. If it detects a faulty status change during operation, it displays "NG" and stops operation.

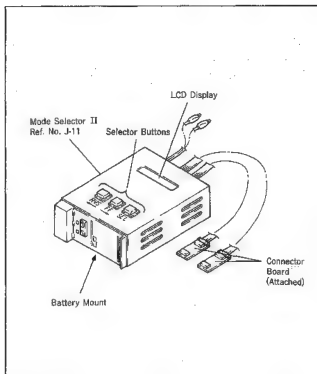


Fig. 3

MODE SELECTOR II (J-6082-282-A) CONNECTION

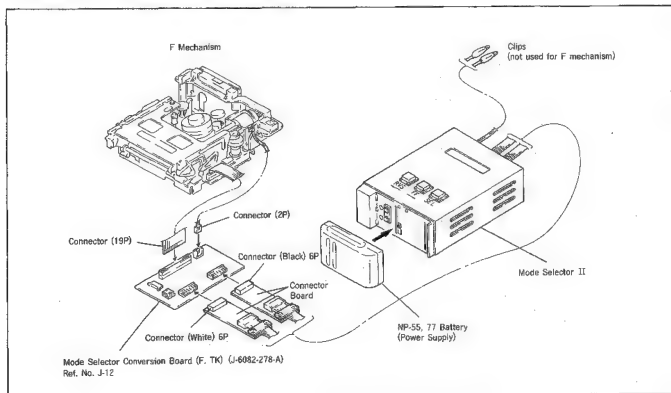
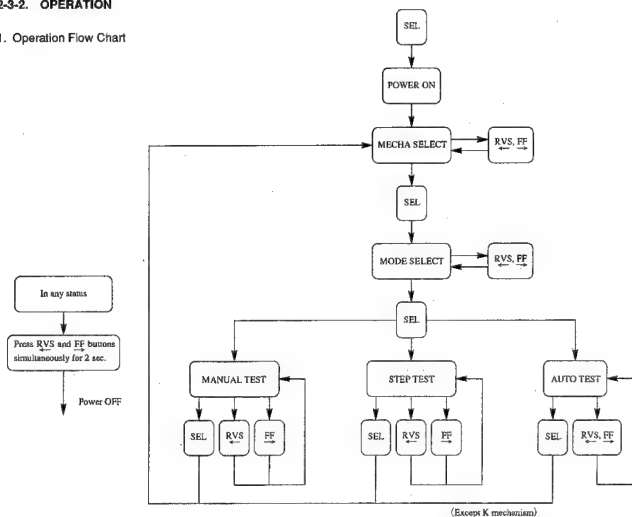


Fig. 4

2-3-2. OPERATION

1. Operation Flow Chart



2. Mode Selector II power ON

Press the SEL button to turn on the power supply.



3. Mode Selector II power OFF

At the power ON, press RVS and FF buttons simultaneously for more than 2 seconds to turn off the power supply.



4. Mechanism selection

The "MECHA SELECT" is displayed on LCD immediately after the power supply is turned on. Call the desired mechanism by pressing the RVS or FF button, and press the SEL button. Thus, the mechanism has been selected. (Fig. 5-1 indicates F mechanism.)

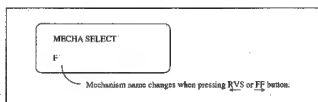


Fig. 5-1

5. Mode selection

Select the test mode "MANUAL", "STEP" or "AUTO" to be executed.

Call the desired mode by pressing the **RVS** or **FF** button, and press the **SEL** button. Thus, the mode has been selected.

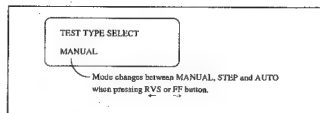


Fig. 5-2

6. MANUAL test

This mode drives the motor only during the time that the **RVS** or **FF** button is pressed.

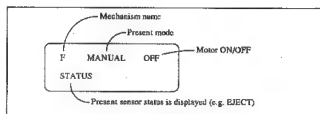


Fig. 5-3

7. STEP test

This mode drives the motor from the present status until the status changes in the direction selected with **RVS** or **FF** button.

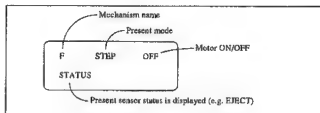


Fig. 5-4

8. AUTO test

This mode checks if the operation sequence stored for each mechanical deck is normal, and if the signals from sensors that execute a sequence of operation meet the stored sequence. The same operation is executed if either **RVS** or **FF** is pressed.

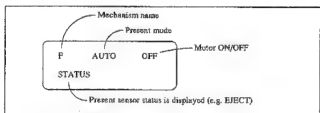


Fig. 5-5

Mechanism status (position) change sequence

After selection of mechanism, if either **MANUAL** or **STEP** mode is selected and the **RVS** or **FF** button is pressed, the mechanism status (position) can be designated. (Designated status is displayed at **STATUS** position.)

EJECT ↔ **UNLOAD END** ↔ **STOP 1** ↔ **HIGH SPEED REW**
SPEED REW ↔ **DEW** ↔ **LOAD END** ↔
STOP 2 ↔ **FWD. P** ↔ **RVS. P**

MD name				F mechanism
Code	A	B	C	
0	1	1	1	EJECT
0	0	1	1	UNLOAD END
1	0	1	0	STOP 1
1	0	1	1	HIGH SPEED REW
1	0	0	0	DEW
1	1	0	0	6
1	1	1	0	7
0	1	1	0	8
0	0	0	0	9
1	1	0	1	10
0	0	0	1	11
1	0	0	1	12

9. Battery alarm display

In case of low voltage of battery, which is a power supply of Mode Selector, the alarm message is displayed (not synchronous display).

In such a case, no operation is available, requiring battery replacement.

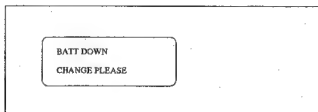


Fig. 5-6

3. PERIODIC CHECK AND MAINTENANCE

- Carry out the following maintenance and periodic checks in order not only to fully exhibit the functions and performance of the set, but also for the equipment and tape. After repairing, service the set as follows, regardless of the length of use.

3-1. CLEANING OF ROTARY DRUM ASSEMBLY

- 1) Gently apply chamois cloth (Ref. No. J-2) soaked in cleaning liquid (Ref. No. J-1) to the rotary drum assembly. Clean it by rotating the upper rotary drum assembly slowly counterclockwise by hand.

Note : Do not rotate the motor by power or rotate the upper rotary drum assembly clockwise by hand. Also, the head tip is highly likely to be damaged if the chamois cloth is moved in a perpendicular direction to the it. make sure to follow the instructions above for cleaning the rotary drum assembly.

3-2. CLEANING OF TAPE PATH (Fig.6)

- 1) In the **[EJECT]** mode, clean the tape running system (TG1, 2, 3, 4, 5, 6, 7, pinch roller, and capstan shaft) and the lower drum, using a super fine applicator (Ref. No. J-3) soaked in the cleaning liquid.

Note : Note that no oil or grease of each link mechanism adheres to the super fine applicator (Ref. No. J-3).

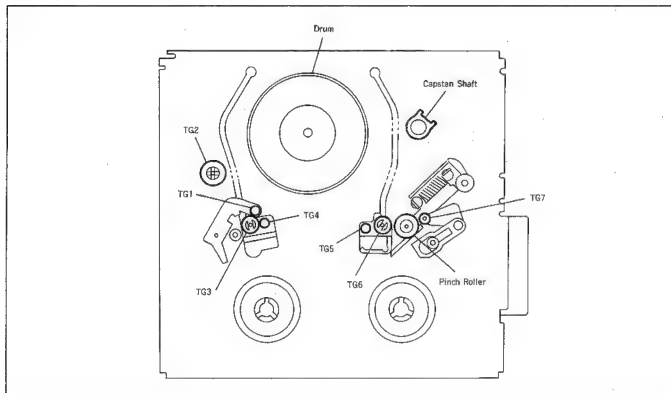


Fig. 6

3-3. PERIODIC CHECK ITEMS

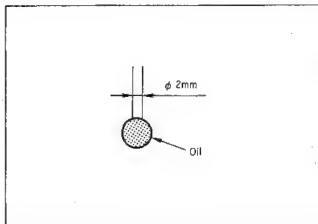
Location of Maintenance and check		Hours of Use (H)										Remarks
		500	1000	1500	2000	2500	3000	3500	4000	4500	5000	
Tape transport System	Cleaning of tape path surface	○	○	○	○	○	○	○	○	○	○	Be careful of oil
	Cleaning and degaussing of rotary assembly	○	○	○	○	○	○	○	○	○	○	Be careful of oil
Driving System	Timing belt	-	☆	-	☆	-	☆	-	☆	-	☆	3-953-986-01
	Timing belt (FL)	-	☆	-	☆	-	☆	-	☆	-	☆	3-954-079-01
	Capstan shaft	-	⊙	-	⊙	-	⊙	-	⊙	-	⊙	Be absolutely careful not to get oil on the tape path surface.
	Relay pulley shaft	-	⊙	-	⊙	-	⊙	-	⊙	-	⊙	
	Loading motor	-	☆	-	☆	-	☆	-	☆	-	☆	X-3942-946-1
Performance Confirmation	Abnormal noise	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	
	Back tension measurement	-	☆	-	☆	-	☆	-	☆	-	☆	
	Brake system	-	☆	-	☆	-	☆	-	☆	-	☆	
	FWD, RVS torque measurement	-	☆	-	☆	-	☆	-	☆	-	☆	

○ : Cleaning ⊙ : Oil ☆ : Confirmation

Note : When overhauling, refer to the items above to replace parts.

Note : Concerning oil

- Be sure to use specified oil. (If you use oil with different viscosity, etc., it may cause troubles.)
Oil : Part No. 7-661-018-18 (Mitsubishi Diamond Oil Hydrofluid NT-68)
- When lubricating bearings, be sure use oil free from dust, etc. (If you use oil with dust, etc. contained, it may cause bearings to be worn out or seized.)
- A drip of oil refers to an amount attached to the tip of a ϕ 2mm stick shown in the right figure.

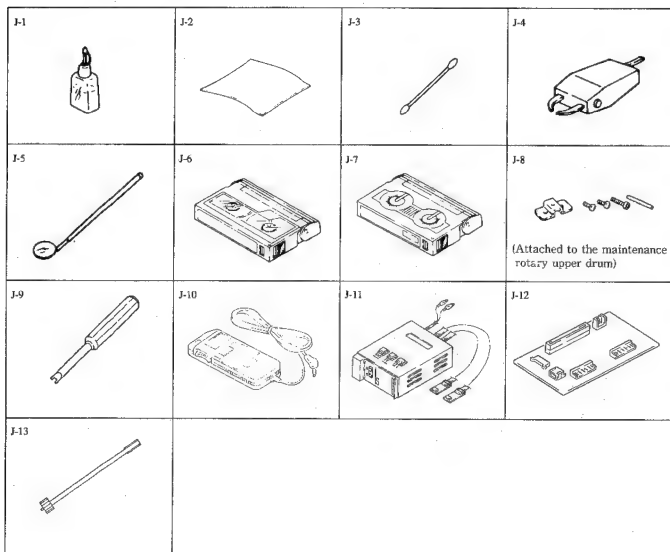


3-4. SERVICE JIGS LIST

Ref. No.	Name	Part No.	Fixture No.	Usage and Others
J-1	Cleaning fluid	Y-2031-001-0		
J-2	Chamois cloth	2-034-697-00		
J-3	Super fine applicator (Made by NIPPON APPLICATOR, P752D)			
J-4	Head degausser	Widely available		
J-5	Small mirror for adjustment Spare mirror	J-6080-029-A J-6080-030-1	SL-5052	Tape path
J-6	Alignment tape NTSC (WR5-1NP) PAL (WR5-1CP)	8-967-995-02 8-967-995-07		Tape path
J-7	FWD and RVS winding torque cassette	J-6080-824-A	GD-2086	
J-8	Rotary drum jig	(Attached to the maintenance rotary upper drum)		
J-9	Screwdriver for tape path	J-6082-026-A		For tape guide adjustment
J-10	Adjusting remote controller (Modified RM-95)	J-6082-053-B		Tape path (Setting of PATH mode)
J-11	Mode selector II	J-6082-282-A		For all models
J-12	Mode selector conversion board (F, TK)	J-6082-278-A		
J-13	FWD B.T. adjusting driver chip	J-6082-187-A		

Other equipment • Oscilloscope

• Analog tester (20 kΩ)



4. MECHANICAL CHECK, ADJUSTMENT AND REPLACEMENT

Note : Use the Mode selector II (Ref. No. J-11) for the following mechanical checks, adjustments and replacements.

Note : The modes in ☐ are those set by pressing the Mode selector buttons.

4-1. RP BLOCK (Fig.7)

1. Removal

- 1) Remove a screw ①.
- 2) Disconnect the connector ②.
- 3) Disengage claws ④ at two places and remove the RP block ③.
- 4) Remove a screw ④, then the RP frame ⑤ in arrow direction.

2. Mounting

- 1) Mount the RP frame with its slot ⑥ engaged with the chassis ⑦.
- 2) Tighten a screw ④.
- 3) Mount the RP block ③ and tighten a screw ①.
- 4) Connect the connector ②.

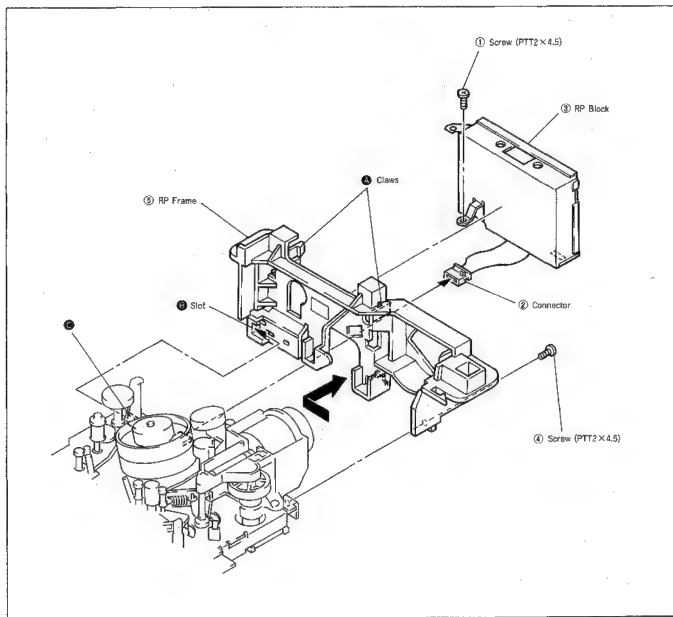


Fig. 7

4-2. IMPEDANCE ROLLER (Fig. 8)

1. Removal

- 1) Referring to 2-1, remove the FL cassette compartment assembly.
- 2) Referring to 4-1, remove the RP block.
- 3) Remove a tension coil spring ①.
- 4) Disengage a claw ④ and remove the impedance roller base assembly ②.
- 5) Disengage a claw ⑤ and remove the impedance roller ③.

2. Mounting

- 1) Mount the impedance roller ③, then the impedance roller base assembly ②.
- 2) Attach a tension coil spring ①.
- 3) Referring to 4-1, mount the RP block.
- 4) Referring to 2-1, mount the FL cassette compartment assembly.

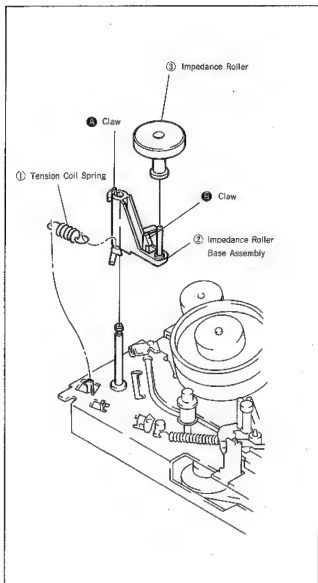


Fig. 8

4-3. HC ROLLER ASSEMBLY (Fig. 9)

1. Removal

- 1) Referring to 4-1, remove the RP block.
- 2) Disengage a claw ④ and remove the HC arm assembly ①.
- 3) Remove a lock washer ②, then the HC roller assembly ③.

2. Mounting

- 1) Mount the HC roller assembly ③ and fix with a lock washer ②.
- 2) Mount the HC arm assembly ①.
- 3) Referring to 4-1, mount the RP block.

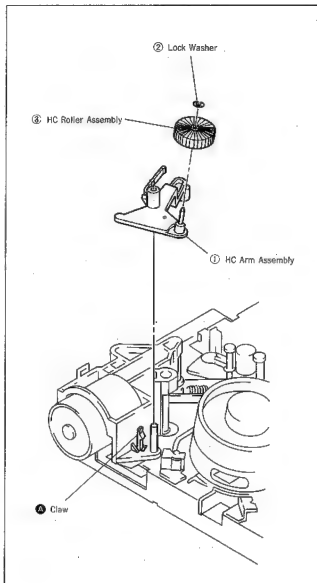


Fig. 9

4-4. PENDULUM BASE ASSEMBLY AND SOFT BRAKE ASSEMBLY (T) (Fig. 10)

1. Removal

- 1) Referring to 2-1, remove the FL cassette compartment assembly.
- 2) Remove a tension coil spring ①.
- 3) Disengage a claw ④ and remove the soft brake (T) assembly ②.
- 4) Remove two screws ③, then the reel unlock plate ④.
- 5) Remove the pendulum base assembly ⑤.

2. Mounting

- 1) Mount the pendulum base assembly ⑤ with its shaft ③ inserted in the ⑥ of pendulum forcing arm.
- 2) Mount the reel unlock plate ④ and tighten two screws (3).
- 3) Mount the soft brake (T) assembly ② and attach a tension coil spring ①.
- 4) Referring to 2-1, mount the FL cassette compartment assembly.

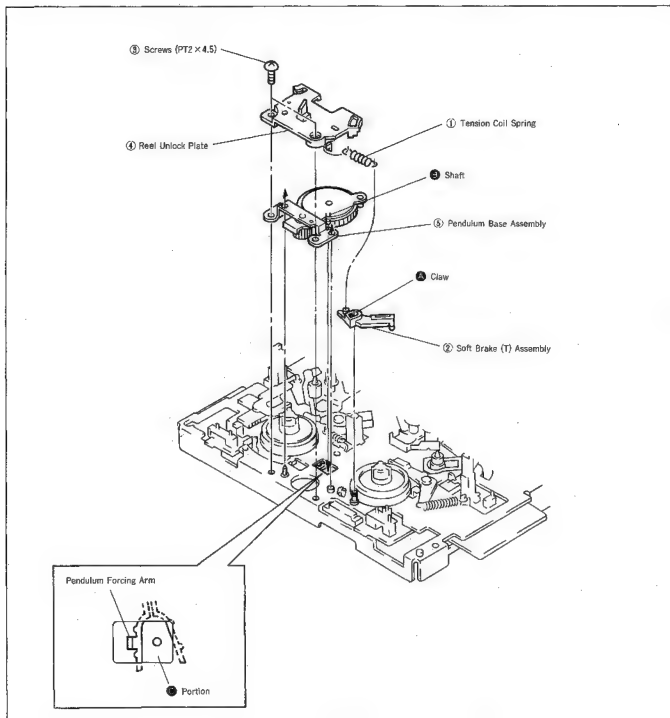


Fig. 10

4-5. BRAKE (S) ARM AND BRAKE (T) ARM ASSEMBLY (Fig. 11)

1. Removal

- 1) Referring to 2-1, remove the FL cassette compartment assembly.
- 2) Remove a tension coil spring ①.
- 3) Disengage a claw ② and remove the brake (S) arm ③.
- 4) Remove a tension coil spring ③.
- 5) Remove a lock washer 1.5 ④, then the brake (T) arm assembly ⑤.

2. Mounting

- 1) Mount the brake (T) arm assembly ⑤ with its shaft inserted into a hole ⑥ in mechanical chassis.
- 2) Attach a lock washer ④.
- 3) Attach a tension coil spring ③.
- 4) Insert the shaft ⑦ of brake (S) arm ② into a groove ⑦ of slide plate, and the shaft ⑧ of brake (S) drive lever into a hole ⑧ in brake (S) arm respectively.
- 5) Attach a tension spring ①.
- 6) Referring to 2-1, mount the FL cassette compartment assembly.

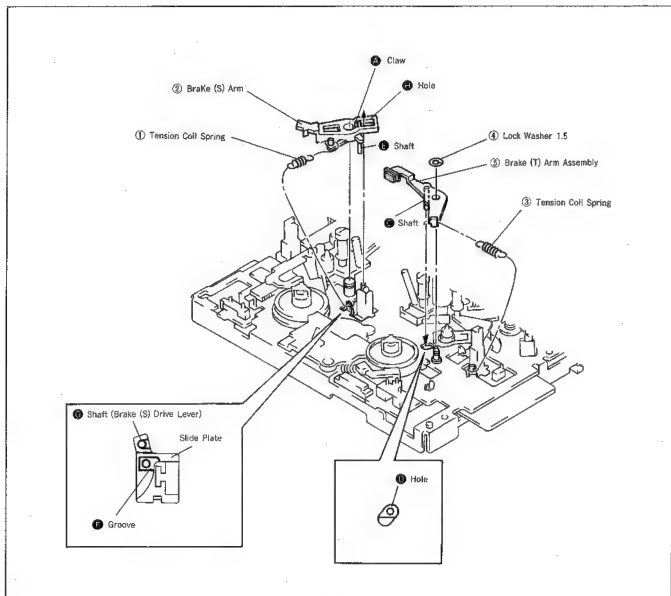


Fig. 11

4-6. TENSION REGULATOR ASSEMBLY, REEL TABLE (S) ASSEMBLY AND REEL TABLE (T) ASSEMBLY (Fig. 12)

1. Removal

- 1) Referring to 2-1, remove the FL cassette compartment assembly.
- 2) Referring to 4-5, remove the brake (S) arm and brake (T) arm assembly.
- 3) Remove a tension coil spring ①.
- 4) Remove a screw ②, then the tension regulator band assembly ③ and the tension regulator assembly ④.

Note : Do not twist or bend, or do not touch the felt surface when removing the tension regulator band assembly.

- 5) Remove the reel table (S) assembly ⑤ and the reel table (T) assembly ⑥.

2. Mounting

- 1) Mount the reel table (S) assembly ⑤ and the reel table (T) assembly ⑥.
- 2) Mount the tension regulator assembly ④ with its shafts A, B inserted into holes C, D in chassis respectively.
- 3) Wind the tension regulator band assembly ③ onto the reel table (S) assembly ⑤.

Note : Do not twist or bend, or do not touch the felt surface when mounting the tension regulator band assembly.

- 4) Mount the tension regulator band assembly ③, meeting with the dowels ⑦ of the chassis.
- 5) Tighten a screw ②.
- 6) Attach a tension coil spring ①.
- 7) Referring to 4-5, mount the brake (S) arm and the brake (T) arm assembly.
- 8) Referring to 2-1, mount the FL cassette compartment assembly.
- 9) Referring to 4-23, adjust the tension regulator position.
- 10) Referring to 4-24, adjust the FWD back tension.

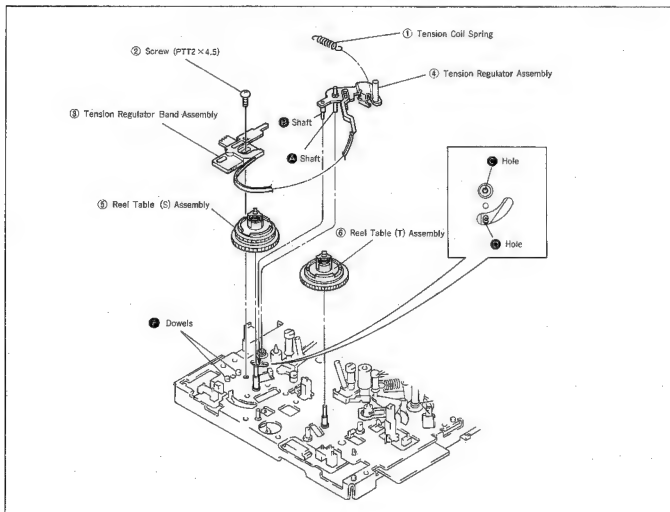


Fig. 12

4-7. TG2 ASSEMBLY (Fig. 13)

1. Removal

- 1) Remove the TG2 upper flange ①.
- 2) Remove the TG2 roller ②, TG2 sleeve ③, TG2 lower flange ④ and compression coil spring ⑤.

2. Mounting

- 1) Mount the compression coil spring ⑤, TG2 lower flange ④, TG2 sleeve ③ and TG2 roller ②.
- 2) Rotate the TG2 upper flange ① by 4 to 6 turns to fix on the shaft.

3. Presetting of TG2 Height

- 1) Rotate to adjust the TG2 upper flange ① so that the height from top surface of mechanical chassis to top surface of TG2 upper flange is 22.12mm.

Note : After mounting, perform 5. Tape Path Adjustment.

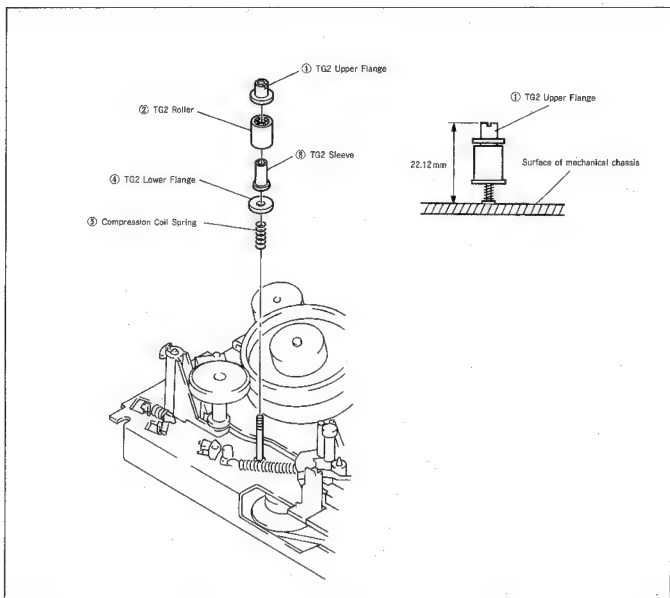


Fig. 13

4-8. TG7 ARM ASSEMBLY (Fig.14)

1. Removal

- 1) Referring to 2-1, remove the FL cassette compartment assembly.
- 2) Remove the TG7 height adjusting screw ①, then the TG7 spacer ② and reel table thrust washer ③.
- 3) Remove the TG7 arm assembly ④ and a torsion coil spring ⑤.

2. Mounting

- 1) Insert the shaft ② of TG7 arm assembly ④ into a groove ⑥ in TG7 drive lever, and attach a torsion coil spring ⑤ as shown below.
- 2) Mount a reel table thrust washer ③ and a TG7 spacer ②, and tighten tentatively the TG7 height adjusting screw. At this time, the height from mechanical chassis top surface to TG7 arm top surface should be 3.3mm.
- 3) Referring to 2-1, mount the FL cassette compartment assembly.

Note : After mounting, perform 5. Tape Path Adjustment.

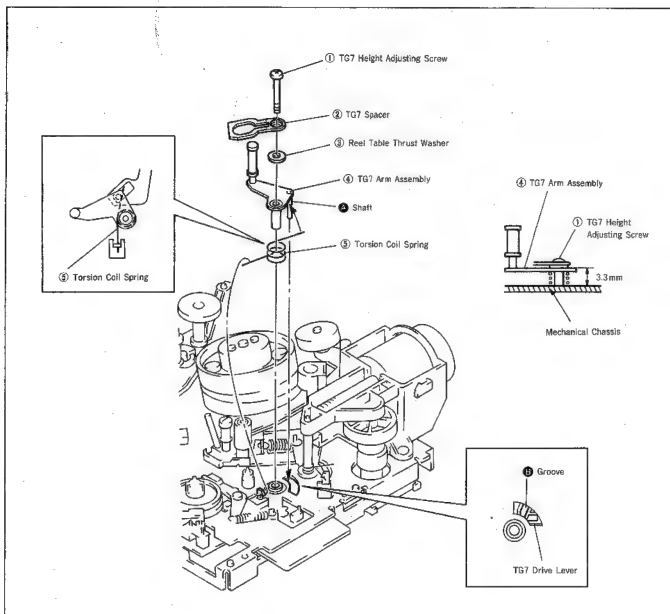


Fig. 14

4-9. CAM MOTOR ASSEMBLY (Fig. 15)

1. Removal

- 1) Referring to 4-1, remove the RP block.
- 2) Remove a screw ①.
- 3) Disengage a claw ④ and remove the cam motor assembly ② in the arrow direction.

2. Mounting

- 1) Mount the cam motor assembly ② with its hole ③ inserted into the shaft ⑤ of chassis.
- 2) Tighten a screw ①.
- 3) Referring to 4-1, mount the RP block.

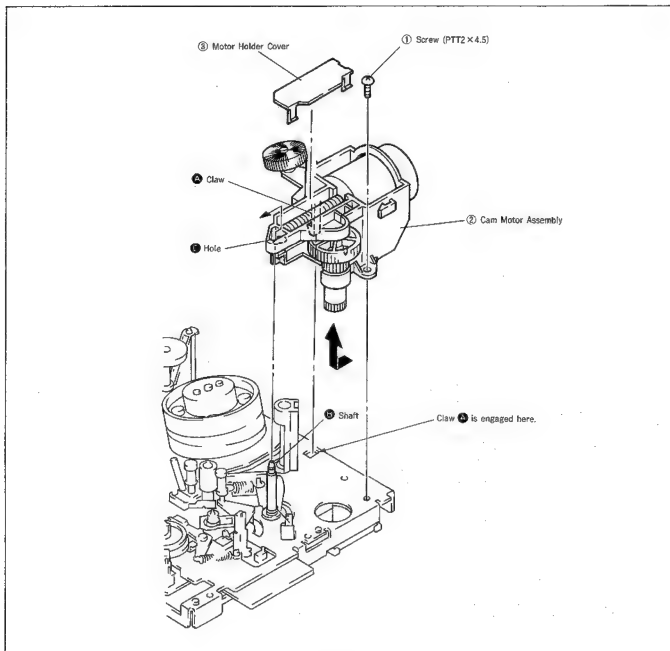


Fig. 15

4-10. PINCH ARM ASSEMBLY (Fig. 16)

1. Removal

- 1) Referring to 2-1, remove the FL cassette compartment assembly.
- 2) Execute the loading until the pinch arm assembly ② becomes level.
- 3) Referring to 4-9, remove the cam motor assembly.
- 4) Remove a torsion coil spring ①, then the pinch arm assembly ②.

2. Mounting

- 1) Mount the pinch arm assembly ② with its hole ④ inserted into the claw ⑤ of pinch drive lever on the chassis.
- 2) Attach a torsion coil spring ① as shown below.
- 3) Referring to 4-9, mount the cam motor assembly.
- 4) Referring to 2-1, mount the FL cassette compartment assembly.

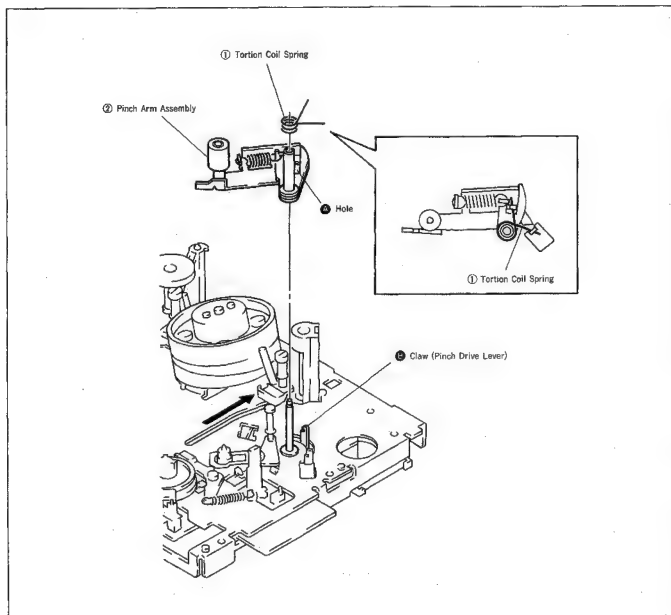


Fig. 16

4-11. WORM WHEEL BRACKET (Fig. 17)

1. Removal

- 1) Remove a screw ①, then the shaft earth assembly ②.
- 2) Remove a screw ③, then the worm wheel bracket ④ in the arrow direction.

2. Mounting

- 1) Mount the worm wheel bracket ④ with its hole ⑤ inserted into the shaft ⑥ of mechanical chassis.
- 2) Tighten a screw ③.
- 3) Mount the shaft earth assembly ② and tighten a screw ①.

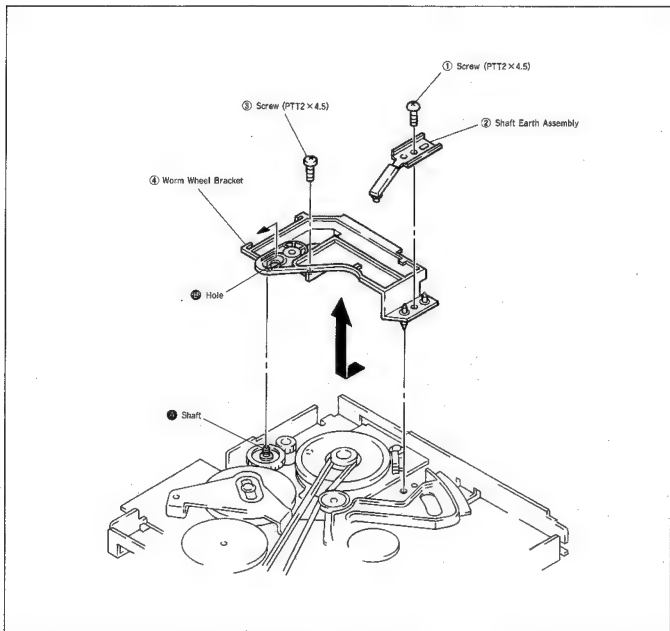


Fig. 17

4-12. CAPSTAN MOTOR (Fig. 18)

1. Removal

- 1) Referring to 4-11, remove the worm wheel bracket.
- 2) Disengage the timing belt ①.
- 3) Remove a screw ②, then the capstan motor ③.

2. Mounting

- 1) Mount the capstan motor ③ with its dowels ④ inserted into holes ⑤ in the mechanical chassis at two places.

Note : Do not touch the capstan motor shaft, oil seal and rotor.

- 2) Tighten a screw ②.
- 3) Engage the timing belt ①.
- 4) Referring to 4-11, mount the worm wheel bracket.

Note : After mounting, perform 5. Tape Path Adjustment.

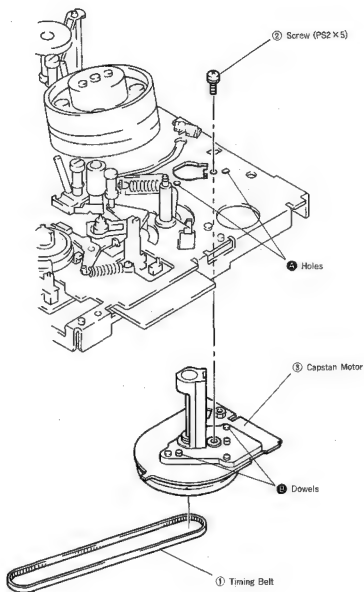


Fig. 18

4-13. DRUM ASSEMBLY (Fig. 19)

1. Removal

- 1) Referring to 4-1, RP Block, disconnect the connector for drum.
- 2) Remove three screws (M2x5) ①.
- 3) Remove the drum assembly ②.

Note : Do not touch the outer surface of drum; hold portions (A) and (B) of drum.

2. Mounting

- 1) Mount the drum ② while aligning with dowels ④ of chassis at two places.

Note : Do not touch the outer surface of drum; hold portions (A) and (B) of drum.

- 2) Tighten three screws (M2x5) ①.
 - 2)-1 Tighten a screw ③ to the torque $29.42\text{mN}\cdot\text{m}$ (300g·cm).
 - 2)-2 Tighten a screw ⑤ to the torque $29.42\text{mN}\cdot\text{m}$ (300g·cm), then return 45° . (Apply a screw locking agent.)
 - 2)-3 Tighten a screw ⑥ to the torque $29.42\text{mN}\cdot\text{m}$ (300g·cm), then return 45° . (Apply a screw locking agent.)

Note : After mounting, perform 5. Tape Path Adjustment.

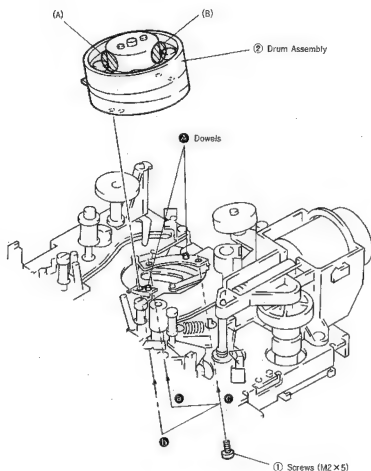


Fig. 19

4-14. PULLEY BASE ASSEMBLY (Fig. 20)

1. Removal

- 1) Remove a screw ①, then the W2, middle ②.
- 2) Disengage a claw ④ and remove the pulley base assembly ③.

2. Mounting

- 1) Mount the pulley base assembly ③ on the shaft ① of mechanical chassis, and engage the timing belt ⑤ with the pulley ⑥.
- 2) Mount the W2, middle ② and tighten tentatively the screw ①.
- 3) Tighten the screw ① at the position where the portion (A) of pulley base assembly ③ is pushed with 14g force.

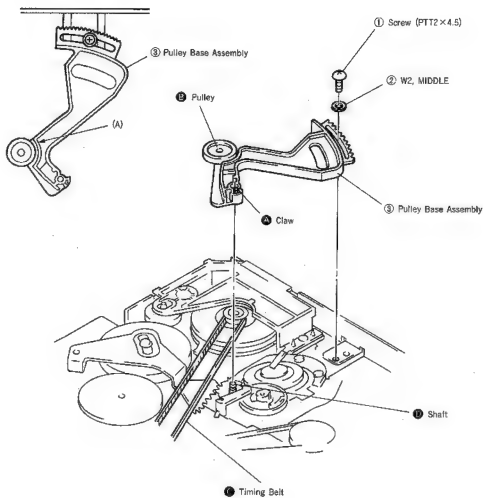


Fig. 20

4-15. LOADING DRIVE LEVER (Fig. 21)

1. Removal

- 1) Disengage the timing belt ①.
- 2) Remove a screw ②, then the W3, small ③.
- 3) Remove the loading drive lever ④.

2. Mounting

- 1) Mount the loading drive lever ④ on the shaft ⑦ of chassis with its shaft ⑧ inserted into the loading roller ⑤.
At this time, insert the shaft ⑨ of main cam into the hole ⑥ in loading drive lever, the shaft ⑩ of loading drive lever into a slot ⑪ in main cam, and align a line ⑫ on loading drive lever with a line ⑬ on loading gear (T) respectively.
- 2) Mount the W3, small ③ and tighten tentatively the screw ②.
- 3) Engage the timing belt ①.

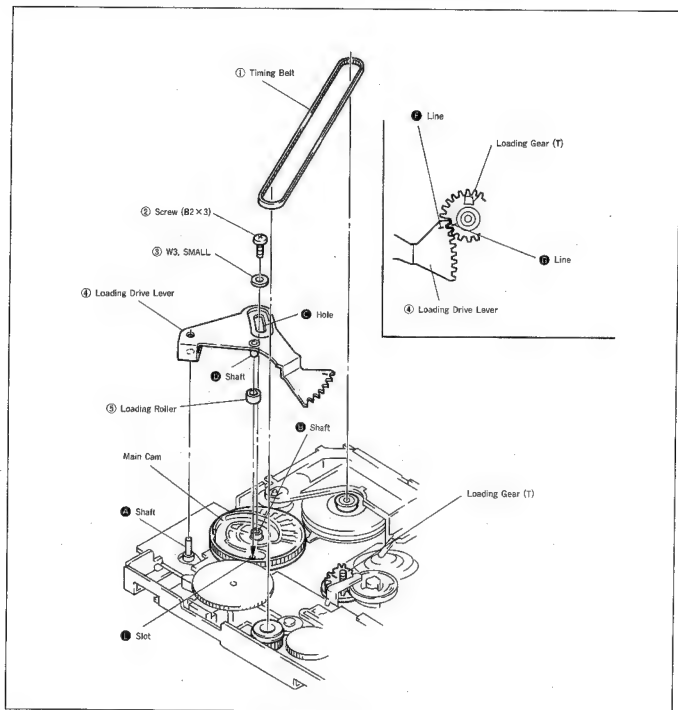


Fig. 21

4-16. ROTARY SWITCH AND MAIN CAM (Fig. 22)

1. Removal

- 1) Referring to 4-11, remove the worm wheel bracket.
- 2) Referring to 4-15, remove the loading drive lever.
- 3) Remove the cam relay gear ①.
- 4) Disengage claws ④ at two places, and disconnect the rotary switch ② from the connector ⑤.
- 5) Remove the main cam ③.

2. Mounting

- 1) Mount the main cam ③ with its cam groove ⑥ inserted into the shaft ⑦ of slide plate drive lever, and cam groove ⑤ into the shaft ⑧ of pinch drive lever respectively.
- 2) Referring to 4-15, mount the loading drive lever.
- 3) Mount the cam relay gear ①.
- 4) Referring to 4-11, mount the worm wheel bracket.
- 5) Connect the rotary switch ② to the connector ⑤ while aligning ▲ marks each other, and its recess ⑪ with the recess ⑨ of main cam ③.

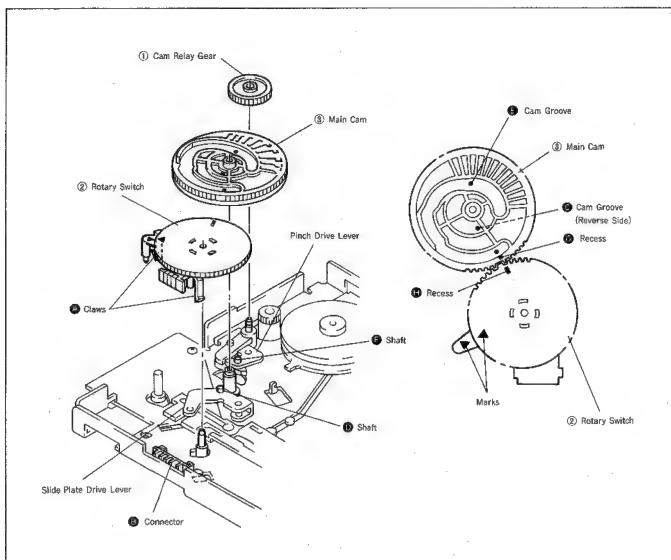


Fig. 22

4-17. SLIDE PLATE (Fig. 23)

1. Removal

- 1) Referring to 4-11, remove the worm wheel bracket.
- 2) Referring to 4-15, remove the loading drive lever.
- 3) Referring to 4-16, remove the rotary switch and main cam.
- 4) Remove the slide plate drive lever ①.
- 5) Disengage the timing belt ②.
- 6) Disengage a claw ③ and remove the FL pulley gear (drive) ③.
- 7) Remove a tension coil spring ④, then the FL switching arm assembly ⑤.
- 8) Remove the brake (S) drive lever ⑧.
- 9) Remove two lock washers 1.5 ⑥, then the slide plate ⑦.

2. Mounting

- 1) Mount the slide plate ⑦ with its groove ⑩ inserted into the shaft ⑨ of chassis, the groove ⑪ into the shaft ⑥ of S take-up assembly, and the groove ⑫ into the shaft ① respectively. At this time, insert the shaft ① into the groove ⑬ in slide plate ⑦ while holding the tension regulator sub-arm toward the arrow.
- 2) Mount two lock washers 1.5 ⑥.
- 3) Referring to 3) of Mounting in 4-18, mount the brake (S) drive lever ⑧.
- 4) Mount the FL switching arm assembly ⑤ and a tension coil spring ④.
- 5) Mount the FL pulley gear (drive) ③ and engage the timing belt ②.
- 6) Mount the slide plate drive lever ① with its shaft ④ inserted into a groove ⑩ in slide plate ⑦, and its hole into the shaft ② of chassis.
- 7) Referring to 4-16, mount the rotary switch and main cam.
- 8) Referring to 4-15, mount the loading drive lever.
- 9) Referring to 4-11, mount the worm wheel bracket.

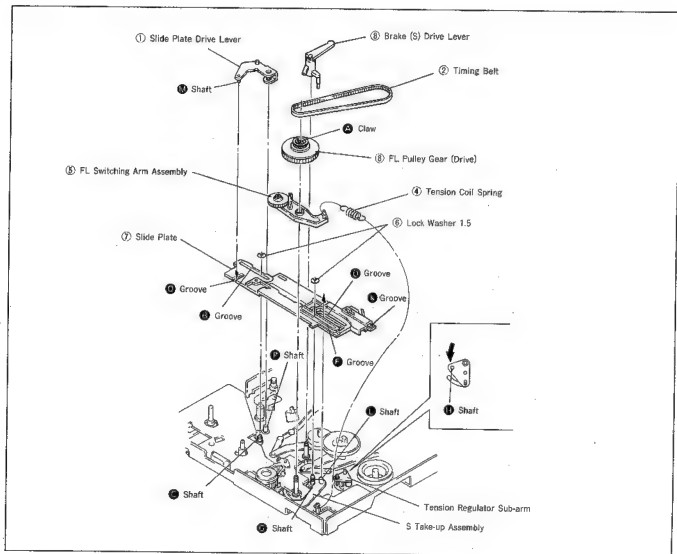


Fig. 23

4-18. LOADING GEAR (S) ASSEMBLY (Fig. 24)

1. Removal

- 1) Referring to 4-15, remove the loading drive lever.
- 2) Disengage a claw **A** and remove the brake (S) drive lever **1**.
- 3) Remove the coaster leaf spring **2**.
- 4) Disengage a claw **B** and remove the loading gear (S) assembly **3**.

2. Mounting

- 1) Mount the loading gear (S) assembly **3** on the shaft **6** of chassis with its arm engaged with the shaft **10** of coaster.
At this time, align the portion **5** of loading gear (T) assembly with the portion **7** of loading gear (S) assembly.
- 2) Mount the coaster leaf spring **2**.
- 3) Mount the brake (S) drive lever **1** on the shaft **11** of chassis with its shaft **4** inserted into the portion **6** of brake (S) arm, and the shaft **4** into the groove **8** in loading gear (S) assembly **3**.
- 4) Referring to 4-15, mount the loading drive lever.

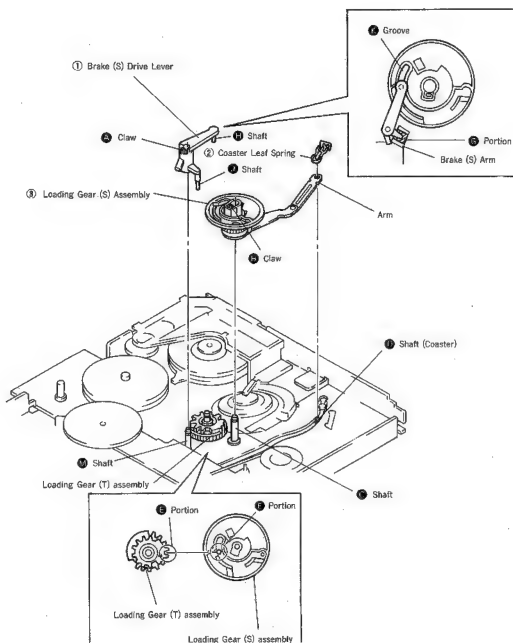


Fig. 24

4-19. LOADING GEAR (T) ASSEMBLY (Fig. 25)

1. Removal

- 1) Referring to 4-15, remove the loading drive lever.
- 2) Referring to 4-18, remove the loading gear (S) assembly.
- 3) Remove the coaster leaf spring ①, then the loading gear (T) assembly ②.

2. Mounting

- 1) Mount the loading gear (T) assembly ② on the shaft ④ of chassis with its arm engaged with the shaft ③ of coaster.
- 2) Mount the coaster leaf spring ①.
- 3) Referring to 4-18, mount the loading gear (S) assembly.
- 4) Referring to 4-15, remove the loading drive lever.

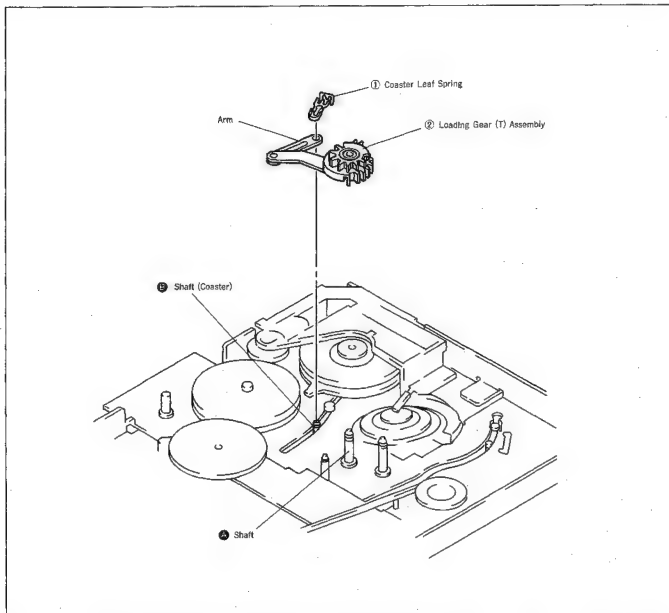


Fig. 25

4-20. COASTER (S) (Fig. 26)

1. Removal

- 1) Referring to 4-2, remove the impedance roller assembly.
- 2) Remove a screw ①, then the catcher (S) ②.
- 3) Remove the coaster leaf spring ③, then the coaster (S) ④.

2. Mounting

- 1) Mount the coaster (S) ④.
- 2) Mount the catcher (S) ② with its holes inserted into dowels A of chassis at two places.
- 3) Tighten a screw ①.
- 4) Referring to 4-18 Loading Gear (S) Assembly, mount the coaster leaf spring ③.
- 5) Referring to 4-2, mount the impedance roller assembly.

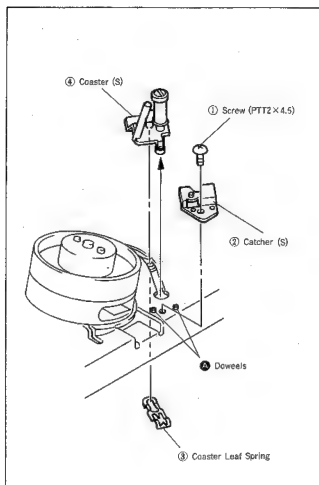


Fig. 26

4-21. COASTER (T) (Fig. 27)

1. Removal

- 1) Remove a screw ①, then the catcher (T) ②.
- 2) Remove the coaster leaf spring ③, then the coaster (T) ④.

2. Mounting

- 1) Mount the coaster (T) ④.
- 2) Mount the catcher (T) ② with its holes inserted into dowels A of chassis at two places.
- 3) Referring to 4-19 Loading Gear (T) Assembly, mount the coaster leaf spring ③.

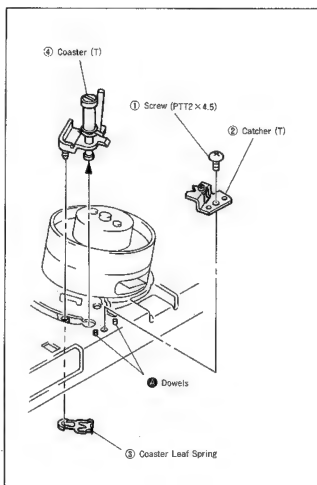


Fig. 27

4-22. ROTARY UPPER DRUM REPLACEMENT

1. Removal

• If possible, make a recording before removal.

- 1) Remove the two screws ① (Fig. 28).
- 2) Mount the jig ② (Ref. No. J-8) with the two supplied screws ③, then screw the attached hexagon socket screws ④ to the jig ②. The rotary upper drum ⑤ will move upward and come off (Fig. 29).

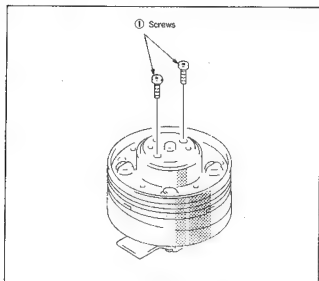


Fig. 28

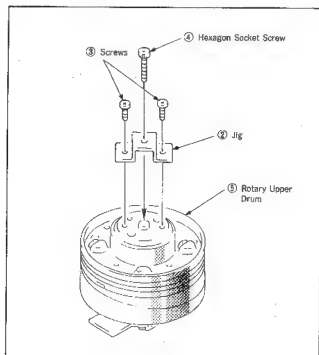


Fig. 29

2. Installation

- 1) Wipe clean the flange surface and the rotary upper drum ⑤ surface that makes contact with it, and confirm that they are free from dirt and scratches.
- 2) Insert the jig ⑥ (Ref. No. J-8) into the drum positioning hole, then set then set the rotary upper drum ⑤ by passing the jig through its positioning hole ⑦. (Fig.30)
- 3) Remove the jig ⑥ and push down the rotary upper drum ⑤ gently by hand. If it does not go all the way down, secure it temporarily by tightening the two screws ① alternately (Fig.28).
- 4) Tighten strongly both two screws ①, and loosen both screws once, then tighten them again (for stable seating).
- 5) Insert the jig ⑥ into the positioning hole ⑦ again and confirm that it goes in smoothly. If it does not, loosen the two screws ①, repeat step 2) of the Removal paragraph and restart the setting procedure.
- 6) Tighten the screws ①.

Note : After installing, be sure to perform tape path adjustment as described in section 5.

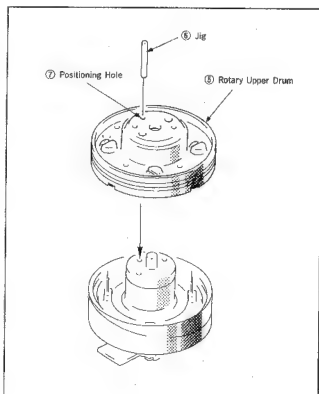


Fig. 30

4-23. ADJUSTMENT OF TENSION REGULATOR POSITION (Fig. 31)

1. Adjustment

- 1) Set a cassette tape and run the tape in the PB mode.
- 2) With the tape running, check that the distance from No.1 guide to No. 2 guide upper flange is 5.5 mm. (On the centerline of TG2 guide)
- 3) If they are not at the specified positions, perform adjustment in step 4) and subsequent steps.
- 4) Loosen the screw ①.
- 5) If No.1 guide is located inside the specified position, shift the tension adjusting base toward the arrow A using the FWD B.T. adjusting driver (Ref No. J-13). Or, if it is located outside, shift toward the arrow B.
- 6) Tighten the screw ①.

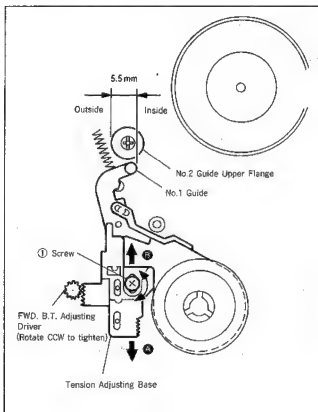


Fig. 31

4-24. FWD BACK TENSION ADJUSTMENT (Fig. 32)

- 1) Select the TEST mode 1 using the adjusting remote controller (Ref No. J-10).
- 2) Set the torque cassette (Ref No. J-7).
- 3) Select the FWD mode, and check that the torque of S reel table is $0.88 \sim 1.17\text{mN}\cdot\text{m}$ ($9 \sim 12\text{g}\cdot\text{cm}$). If it is out of standard, adjust the tension adjusting arm position.

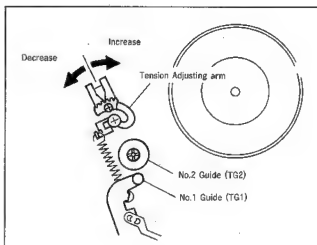


Fig. 32

4-25. REEL TORQUE CHECK

- 1) Set the torque cassette.
- 2) Select the FWD mode, and check that the torque fluctuation center of T reel table is $0.98 \sim 1.96\text{mN}\cdot\text{m}$ ($10 \sim 20\text{g}\cdot\text{cm}$).
- 3) Select the RVS mode, and check that the torque fluctuation center of S reel table is $1.77 \sim 2.75\text{mN}\cdot\text{m}$ ($18 \sim 28\text{g}\cdot\text{cm}$).
- 4) Select the REV mode, and check that the torque of T reeltable is $0.98 \sim 1.96\text{mN}\cdot\text{m}$ ($10 \sim 20\text{g}\cdot\text{cm}$).
- 5) If the above data is not satisfied, the tension regulator band, T hard tab or T soft assembly will be faulty. Check them first, and if no abnormality is found, replace respective reel tables.

4-26. FL WORM WHEEL (Fig. 33)

1. Removal

- 1) Disengage tabs ④ at four places and remove the gear cover ①.
- 2) Remove the drive gear ②, then the FL worm wheel ③.

2. Mounting

- 1) Mount the FL worm wheel ③.
- 2) Meet a hole ⑥ in drive arm (T) on right side with a hole in chassis, and also a hole ⑤ in FL worm wheel ③ with a hole in side plate.
Meet a hole ④ in drive gear ② with a hole in side plate.
Meeting respective holes, mount the drive gear ②.
- 3) Mount the gear cover ①.

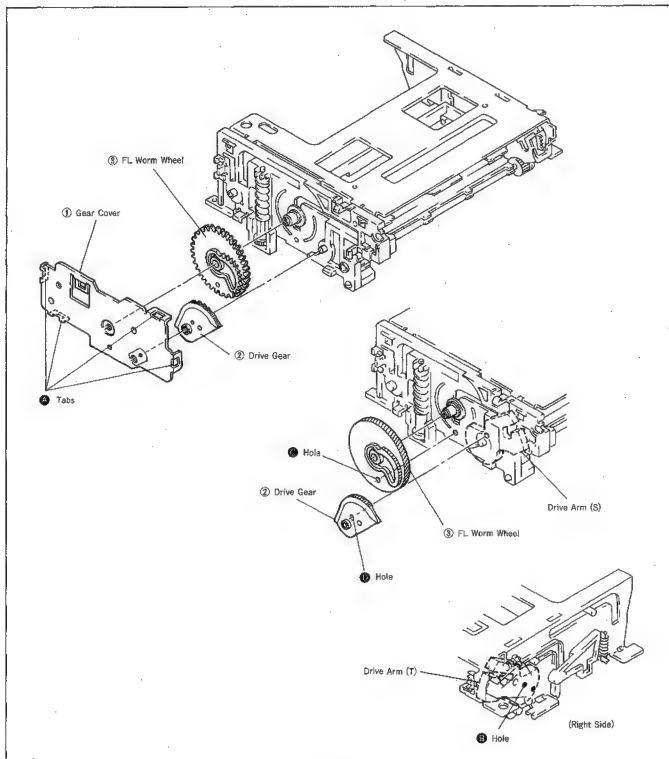


Fig. 33

5. TAPE PATH ADJUSTMENT

The 8mm video system uses ATF (Automatic Track Finding) which instantaneously controls a tape running speed based on 4 types of pilot signals and performs high-precision tracking.

This does away a tracking control knob and allows accurate track tracing.

On the other hand, however, the ATF system has a problem in adjusting the tape path system. That is, if head tracing is out of order a little, the ATF automatically corrects it, which means that perfect adjustment cannot be done.

Therefore, in the F mechanism, the ATF system is forcibly operated to shift a tracking amount constantly (approx. 1/4) by setting the PATH mode with the adjusting remote controller (Ref No. J-10). So, fine tracking adjustment can be easily done.

Also, the PATH mode setting varies with the model, and therefore, refer to the Service Manual.

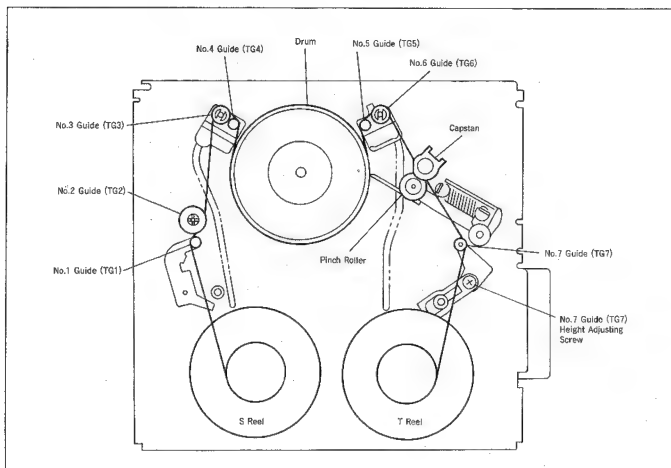


Fig. 34

[Note on Adjustment of No.7 Guide (TG7)]

The height adjustment screw for No.7 guide (TG7) is located at some distance from the guide (refer to Fig.42).

Therefore, when performing section 5-4. No.7 Guide (TG7)

Adjustment it is convenient to use the alignment tape for tracking (Ref. No. J-6), modified as follows, and perform adjustment in playback mode.

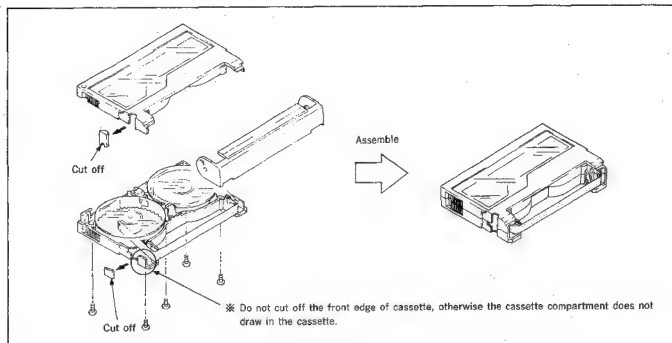


Fig. 35

5-1. PREPARATION FOR ADJUSTMENT

- 1) Clean the tape running surface (tape guides, drum, capstan shaft, pinch roller) (Fig. 34).
- 2) Set the PATH mode using the adjusting remote controller.
- 3) connect an oscilloscope to the check pin connector of the set.
- 4) Play back a tracking alignment tape (NTSC : WR5-1NP, or PAL : WR5-1CP).
- 5) Check that a RF waveform is flat at the inlet and outlet of the oscilloscope (Fig. 36 ㉔).

If not flat, make adjustment with the procedures below.

When the RF waveform is not flat at the inlet/outlet; See Fig. 36 ㉕ and ㉖.

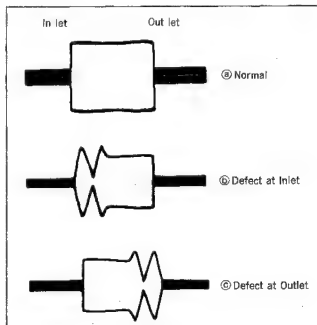


Fig. 36

5-2. TRACKING ADJUSTMENT (Fig. 37, 38)

- 1) Play back the tracking alignment tape.
- 2) Loosen the No.3 guide (TG3) lock screw ① and turn the No.3 guide to flatten the waveform at the inlet.
- 3) Tighten the No.3 guide (TG3) lock screw ① to lock the No.3 guide.
- 4) Loosen the No.6 guide (TG6) lock screw ② and turn the No.6 guide to flatten the waveform at the outlet.
- 5) Tighten the No.6 guide (TG6) lock screw ② to lock the No.6 guide. When this is done, make sure that the waveform does not change at the outlet.

Note : Be careful not to loosen the lock screw too much because the guide is easily moved.

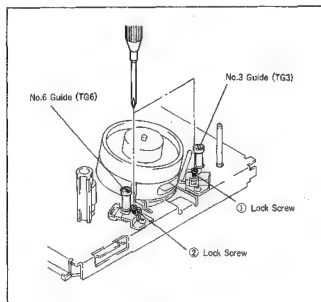


Fig. 37

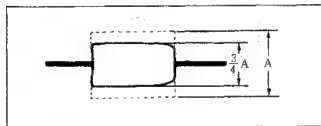


Fig. 38

5-3. No.2 GUIDE (TG2) ADJUSTMENT

When the No.2 guide has been turned or replaced, perform height presetting before this adjustment.

5-3-1. No. 2 GUIDE (TG2) HEIGHT PRESETTING (Fig. 39)

- 1) Rotating the TG2 upper flange, adjust the height from top surface of mechanical chassis to top surface of TG2 upper flange to 22.12mm.

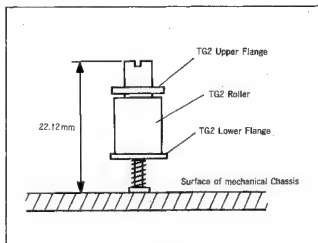


Fig. 39

[Reference]

This F mechanism is equipped with four adjustable guides (TG2, 3, 6 and 7). To raise or lower the respective guide rotate the corresponding adjustment screw as shown below.

Guide	Guide adjustment	Rotating direction of adjustment screw
TG2, 3, 6	Raise	Counterclockwise
	Lower	Clockwise
TG7	Raise	Clockwise
	Lower	Counterclockwise

5-3-2. No. 2 GUIDE (TG2) ADJUSTMENT (Fig. 40, 41)

- 1) Play back a thin tape like the P6-120MP, etc. and set the REV mode.
 - 2) Confirm that the tape is not bent at the lower flange ② of the No.2 guide (TG2) ① (Fig. 40). If it is, turn the upper flange ③ of the No.2 guide (TG2) clockwise with a screwdriver, lowering it until the tape is straightened.
 - 3) Play back the alignment tape for tracking adjustment.
 - 4) Perform tracking adjustment and tracking fine adjustment as described in sections 5-2.
 - 5) In the track shift mode, CUE/REV the tape, then play it back and confirm that the RF waveform rises flat within 2 seconds.
 - 6) If the waveform is not normal (Fig. 41), turn the upper flange ③ of the No. 2 guide (TG2) ① 90° counterclockwise and repeat step 5.
- Repeat steps 5) and 6) until a normal waveform is obtained. Then, confirm that the tracking waveform has not changed. If it has, perform fine adjustment of entrance side tracking and repeat step 5).

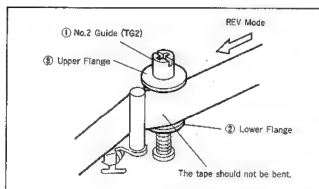


Fig. 40

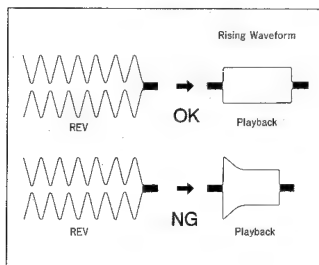


Fig. 41

5-4. No.7 GUIDE (TG7) ADJUSTMENT (Fig. 42)

Note: This adjustment requires the No. 7 guide adjusting cassette tape (Fig. 35).

- 1) Play back the No.7 guide adjusting cassette tape and set the REV mode.
- 2) Confirm that the tape is not bent between the No.6 guide (TG6) ① and the capstan ②. If it is, turn the height adjusting screw ④ of the No.7 guide (TG7) ③ until the tape is straightened.
- 3) Set the playback mode again and confirm that the tape is not bent between the capstan ② and the No.7 guide (TG7) ③ (specification : 0.5mm or less). If the tape is bent beyond the specification, turn the height adjusting screw ④ until bending is within the specification (0.5mm).

If in the REV mode tape bending between the No. 6 guide (TG6) ① and the capstan ② is 0.3mm or less, adjustment can be considered completed.

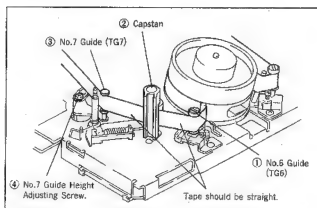


Fig. 42

5-5. CUE AND REV WAVEFORM CHECK (Fig. 43)

- 1) Play back the alignment tape for tracking adjustment and set the REV mode. Confirm that waveform peaks maintain a constant pitch of 5 seconds or more (Fig. 43). In case pitch is not constant, perform section 5-2. Tracking Fine Adjustment and section 5-4. No.7 Guide Adjustment.
- 2) Set the CUE mode. Confirm that waveform peaks still maintain a constant pitch of 5 seconds or more (Fig. 43). Otherwise, perform section 5-2 Tracking Fine Adjustment.

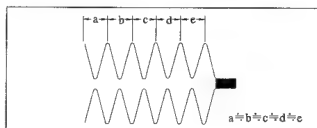


Fig. 43

5-6. CHECK AFTER ADJUSTMENT

5-6-1. TRACKING CHECK

- 1) Confirm that the amplitude of RF waveform is reduced to approx. 3/4 when the track shift mode is set (Fig. 44).
- 2) Then, confirm that the minimum amplitude value (EMIN) is 65% of the maximum value (EMAX) or larger (Fig. 45).
- 3) Confirm that no large fluctuations occur on the waveform (Fig. 45).

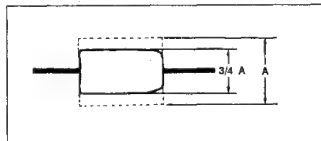


Fig. 44

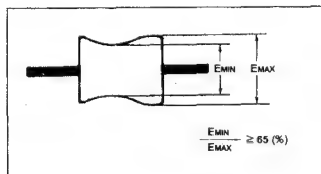


Fig. 45

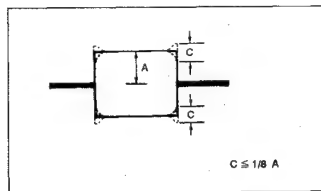


Fig. 46

5-6-2. RISING CHECK (Fig. 47)

- 1) Play back the alignment tape for tracking adjustment.
- 2) Cancel the track shift mode.
- 3) Eject the tape, then load it again.
- 4) Set the playback mode and confirm that the RF wave form rises flat within 2 seconds. Also confirm that the tape is not bent around the pinch roller.
- 5) CUE/REV and FF/REW the tape, then play it back and confirm that the RF waveform rises flat within 2 seconds. Also confirm that the tape is not bent around the pinch roller.
- 6) Repeat steps 3) to 5) once more.

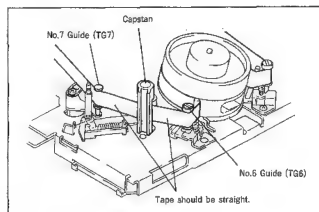


Fig. 47

5-6-3. TAPE PATH CHECK (Fig. 48)

- 1) Play back a thin tape like the P6-120MP (NTSC) or P5-90MP (PAL), etc. and confirm that no tape rising occurs, and that curling is less than 0.3mm, at the lower flange of the No. 2 guide, the upper flange of the No. 3 guide, the upper flange of the No. 6 guide and the No. 7 guide upper and lower flanges.
- 2) Confirm that no tape rising occurs and that curling is less than 0.3mm at the flange of all guide when pressing the FF button in the playback mode to set the CUE mode, or the REW button to set the REV mode.

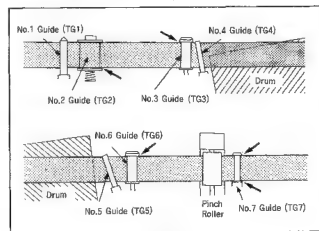


Fig. 48

SECTION 6 EXPLODED VIEWS

NOTE:

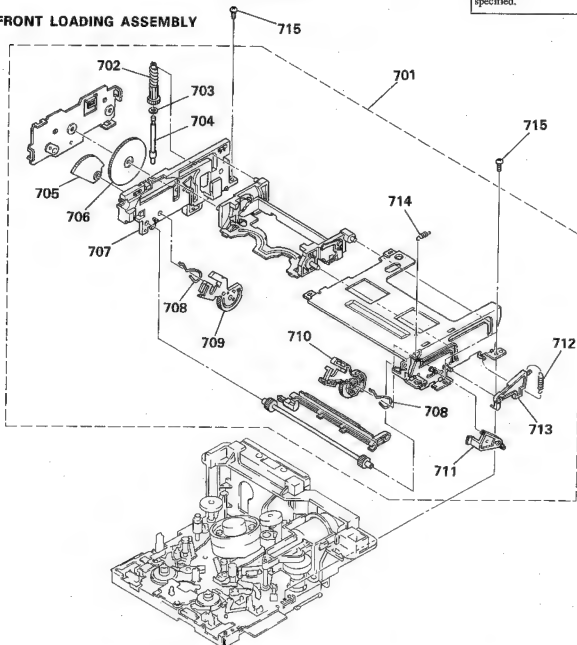
● Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

● The mechanical parts with no reference number in the exploded views are not supplied.

● Hardware (#mark) list is given in the last of this parts list.

The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

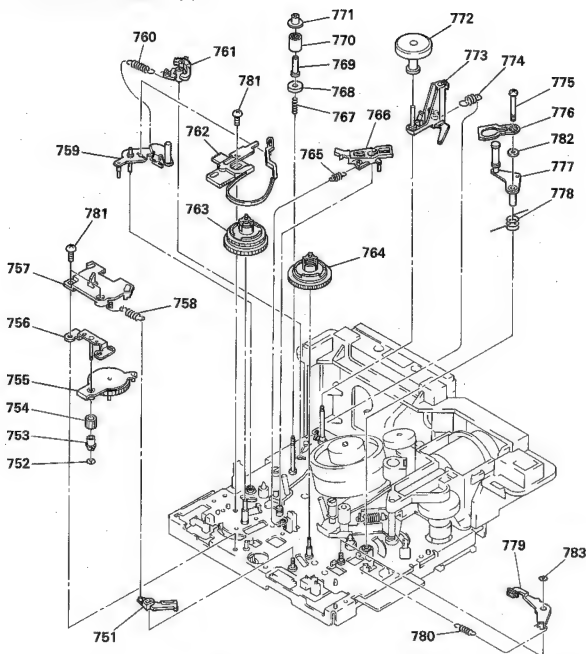
6-1. FRONT LOADING ASSEMBLY



Ref. No.	Part No.	Description	Remark
701	A-7091-941-A	FL BLOCK ASSY	
702	3-954-028-01	GEAR, FL WORM	
703	3-738-212-11	RETAINER, THRUST, REEL TABLE	
*704	3-954-029-01	SHAFT, FL WORM GEAR	
705	3-954-030-01	GEAR, DRIVING	
706	3-954-019-01	WHEEL, FL WORM	
*707	3-954-032-01	PLATE (S), SIDE	
708	3-954-042-01	SPRING, PRESS	

Ref. No.	Part No.	Description	Remark
709	3-954-034-01	ARM (S), DRIVING	
710	3-954-033-01	ARM (T), DRIVING	
*711	3-954-041-01	ARM, DOOR SWITCHING	
712	3-954-043-01	SPRING, TENSION	
*713	3-954-040-01	ARM, CASSETTE IN SWITCH	
714	3-954-044-01	SPRING, TENSION	
715	3-732-817-01	SCREW (2X4.5), TAPPING	

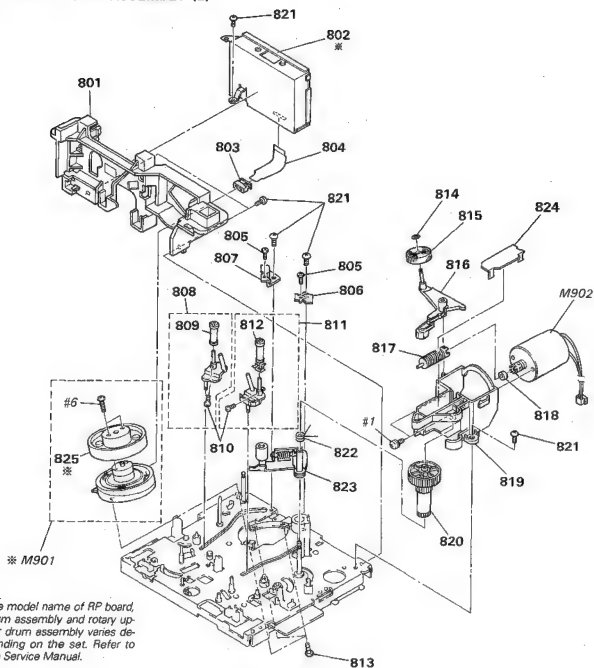
6-2. MD CHASSIS ASSEMBLY (1)



Ref. No.	Part No.	Description	Remark
751	X-3943-111-1	BRAKE (T) ASSY, SOFT	
752	3-726-329-01	WASHER, STOPPER	
753	3-954-321-01	BEARING, PENDULUM DRIVING	
754	3-954-059-01	GEAR, PENDULUM DRIVING	
755	X-3942-951-1	GEAR ASSY, PENDULUM	
756	X-3943-162-1	BASE ASSY, PENDULUM	
* 757	3-954-063-01	PLATE, RELEASE, REEL LOCK	
758	3-955-142-01	SPRING, TENSION	
759	X-3942-955-1	TENSION REGULATOR ASSY	
760	3-954-074-01	SPRING, TENSION	
761	3-954-103-01	ARM, TENSION ADJUSTMENT	
762	X-3942-956-1	BAND ASSY, TENSION REGULATOR	
763	X-3942-964-1	TABLE (S) ASSY, REEL	
764	X-3942-963-1	TABLE (T) ASSY, REEL	
765	3-954-085-01	SPRING, TENSION	
766	3-954-071-01	ARM, BRAKE (S)	
767	3-954-001-01	SPRING, COMPRESSION	

Ref. No.	Part No.	Description	Remark
768	3-726-882-02	FLANGE, LOWER, TG2	
769	3-726-885-01	SLEEVE, TG2	
770	3-726-883-31	ROLLER, TG2	
771	3-726-884-01	FLANGE, UPPER, TG2	
772	3-954-282-01	ROLLER (M)	
773	X-3943-015-1	BASE ASSY, ROLLER	
774	3-954-284-01	SPRING, TENSION	
775	3-954-096-01	SCREW, TG2 HEIGHT ADJUSTMENT	
776	3-954-093-01	SPACER, TG2	
777	X-3942-958-1	ARM ASSY, TG2	
778	3-954-003-01	SPRING (TG7), TORSION	
779	X-3943-161-1	BRAKE (T) ASSY	
780	3-953-978-01	SPRING, TENSION	
781	3-732-817-01	SCREW (2x4.5), TAPPING	
782	3-738-212-11	RETAINER, THRUST, REEL TABLE	
783	3-669-465-00	WASHER (1.5), STOPPER	

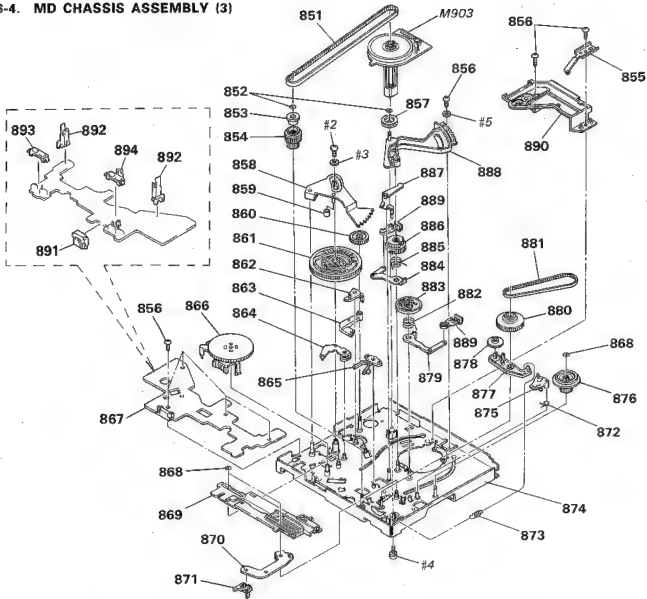
6-3. MD CHASSIS ASSEMBLY (2)



Ref. No.	Part No.	Description	Remark
*801	3-955-623-01	FRAME, RP	
*802	※	RP BOARD, COMPLETE	
803	1-691-471-11	CONNECTOR, TRANSLATION 11P	
804	1-649-565-11	FP-606 FLEXIBLE BOARD	
805	3-954-285-01	SCREW (M1.4X0.2)	
806	3-954-091-01	CATCHER (T)	
807	3-954-090-01	CATCHER (S)	
808	A-7040-338-A	COASTER (S) BLOCK ASSY	
809	X-3941-755-1	ROLLER ASSY (2), TC3	
810	3-947-504-01	SCREW (M1.2X2)	
811	A-7040-339-A	COASTER (T) BLOCK ASSY	
812	X-3941-756-1	ROLLER ASSY (2), T06	
813	3-686-493-01	SCREW (M2X5), P1	
814	3-321-393-01	WASHER, STOPPER	

Ref. No.	Part No.	Description	Remark
815	X-3943-192-1	ROLLER ASSY, HC	
816	X-3942-947-1	ARM ASSY, HC	
817	3-733-395-01	GEAR (CAM), WORM	
818	3-696-388-01	RUBBER, JOINT	
819	3-954-024-01	HOLDER, MOTOR	
820	3-954-023-01	WHEEL, CAM WORM	
821	3-732-817-01	SCREW (2X4.5), TAPPING	
822	3-954-105-01	SPRING (PINCH DRIVING)	
823	X-3942-945-1	ARM ASSY, PINCH	
824	3-958-047-02	MOTOR HOLDER COVER	
825	※	DRUM, UPPER, ROTARY	
M901	※	DRUM ASSY	
M902	X-3942-946-1	MOTOR ASSY, CAM	

6-4. MD CHASSIS ASSEMBLY (3)



Ref.No.	Part No.	Description	Remark
851	3-953-986-01	BELT, TIMING	
852	3-726-829-01	WASHER, STOPPER	
853	3-954-102-02	FLANGE, REEL RELAY	
854	3-954-061-01	GEAR, REEL RELAY	
855	X-3942-960-1	GROUND ASSY, SHAFT	
856	3-732-817-01	SCREW (2X4.5), TAPPING	
857	X-3943-016-1	PULLEY ASSY, BELT	
*858	3-954-014-01	LEVER, LOADING DRIVING	
859	3-954-323-01	ROLLER, LOADING	
860	3-954-015-01	GEAR, CAM RELAY	
861	3-954-050-01	CAM, MAIN	
*862	3-954-009-01	LEVER, PINCH DRIVING	
863	3-954-016-01	LEVER, TGT DRIVING	
*864	3-954-007-01	LEVER, SLIDE PLATE DRIVING	
865	3-953-973-01	ARM, PENULOM COMPULSION	
866	1-602-498-11	SWITCH, ROTARY	
*867	1-548-300-11	MD-59 BOARD	
868	3-669-465-00	WASHER (1.5), STOPPER	
869	3-953-972-01	PLATE, SLIDE	
*870	3-953-974-01	ARM, S TAKE-UP	
871	3-953-975-01	CLAW, S TAKE-UP	
872	3-956-366-01	SPRING, TORSION	
873	3-953-982-01	SPRING, TENSION	

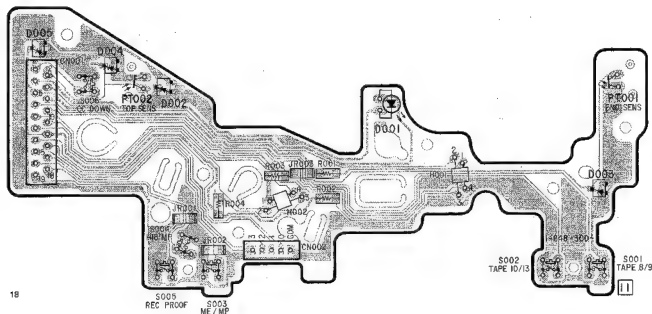
Ref.No.	Part No.	Description	Remark
*874	X-3942-952-1	CHASSIS ASSY, MECHANICAL	
875	3-954-100-01	ARM, TENSION REGULATOR SUB	
876	3-953-983-01	GEAR, FL PULLEY	
877	3-953-979-01	ARM, FL SELECTION	
878	3-953-980-01	GEAR, FL SELECTION	
879	X-3942-949-1	ARM (S) ASSY, LOADING	
880	3-953-991-01	GEAR (DRIVING), FL PULLEY	
881	3-954-079-01	BELT (FL), TIMING	
882	3-953-958-01	SPRING (S), TORSION	
883	3-953-991-01	GEAR (S), LOADING	
884	X-3942-948-1	ARM (T) ASSY, LOADING	
885	3-954-000-01	SPRING (T), TORSION	
886	3-953-992-01	GEAR (T), LOADING	
887	3-954-072-01	LEVER, BRAKE (S) DRIVING	
888	X-3942-962-1	BASE ASSY, PULLEY	
889	3-956-649-01	SPRING, LEAF, COASTER	
*890	3-954-049-01	RETAINER, WORM WHEEL	
891	1-750-620-11	CONNECTOR (008 MD)	
892	3-953-985-01	HOLDER, ST SENSOR	
893	3-954-638-01	HOLDER (S), PUSH SWITCH	
894	3-954-639-01	HOLDER (T), PUSH SWITCH	
M903	8-835-499-01	MOTOR, DC SCE-0501A	

SCHEMATIC DIAGRAM



PRINTED WIRING BOARD

MD-59 BOARD



18

8 mm Video MECHANICAL ADJUSTMENT MANUAL V

SECTION 8

ELECTRICAL PARTS LIST

MD-59

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.

RESISTORS

All resistors are in ohms.

METAL: Metal-film resistor.

METAL OXIDE: Metal oxide-film resistor.

F: nonflammable

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

SEMICONDUCTORS

In each case, u: μ , for example:

uA...: μ A..., uPA...: μ PA...,

uPB...: μ PB..., uPC...: μ PC..., uPD...: μ PD...

CAPACITORS

uF: μ F

COILS

uH: μ H

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description	Remark
*	1-648-900-11	MD-59 BOARD *****	
	3-953-985-01	HOLDER, ST SENSOR	
	3-954-638-01	HOLDER (S), PUSH SWITCH	
	3-954-639-01	HOLDER (T), PUSH SWITCH	

< CONNECTOR >

CND01	1-569-341-11	CONNECTOR, BOARD TO BOARD 19P	
*CND02	1-750-630-11	CONNECTOR (QMS MD)	

< DIODE >

D001	8-719-988-42	DIODE GLASS	
D002	8-719-106-79	DIODE RD13M-B1	
D003	8-719-106-23	DIODE RD7.5M-B2	
D004	8-719-106-23	DIODE RD7.5M-B2	
D005	8-719-106-23	DIODE RD7.5M-B2	

< HOLE ELEMENT >

H001	1-808-118-11	ELEMENT, HALL HW-300A	
H002	1-808-118-11	ELEMENT, HALL HW/300A	

< JUMPER RESISTOR >

JR001	1-216-296-00	METAL CHIP	0 5% 1/8W
JR002	1-216-296-00	METAL CHIP	0 5% 1/8W
JR003	1-216-296-00	METAL CHIP	0 5% 1/8W

< TRANSFORMER >

PT001	8-729-907-25	TRANSISTOR PT4850F	
PT002	8-729-907-25	TRANSISTOR PT4850F	

< RESISTOR >

RO01	1-216-190-00	METAL GLAZE	470 5% 1/8W
RO02	1-216-190-00	METAL GLAZE	470 5% 1/8W
RO03	1-216-190-00	METAL GLAZE	470 5% 1/8W
RO04	1-216-190-00	METAL GLAZE	470 5% 1/8W

< SWITCH >

S001	1-692-497-11	SWITCH, PUSH (TAPE 8/9)	
S002	1-692-497-11	SWITCH, PUSH (TAPE 10/13)	

Ref. No.	Part No.	Description	Remark
S003	1-692-497-11	SWITCH, PUSH (ME/MP)	
S004	1-692-497-11	SWITCH, PUSH (HS MP)	
S005	1-692-497-11	SWITCH, PUSH (REC PROOF)	

S006	1-570-953-11	SWITCH, PUSH (1 KEY) (CC DOWN)	
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MISCELLANEOUS

803	1-691-471-11	CONNECTOR, TRANSLATION 11P	
804	1-649-565-11	FP-696 FLEXIBLE BOARD	
825	*	DRUM ASSY	
866	1-692-498-11	SWITCH, ROTARY	
891	1-750-620-11	CONNECTOR (QMS MD)	

M901	*	DRUM ASSY	
M902	X-3942-946-1	MOTOR ASSY, CAM	
M903	8-835-499-01	MOTOR, DC SCE-0501A	

HARDWARE LIST

#1	7-682-645-01	SCREW +PS 3X4	
#2	7-621-772-08	SCREW +B 2X3	
#3	7-688-003-01	W 3, SMALL	
#4	7-628-253-15	SCREW +PS 2X5	
#5	7-688-001-01	W 2, MIDDLE	
#6	7-627-853-57	PRECISION SCREW +P 2X5 TYPES	

8 mm Video MECHANICAL ADJUSTMENT MANUAL V

F MECHANISM

CORRECTION-1

Correct your MECHANICAL ADJUSTMENT MANUAL V as shown below.

Subject:

1. Change of Mounting and Removal of FL Worm Wheel
2. Change of Disassembly Figure, Parts

4-26. FL WORM WHEEL (Fig. 33)(Page 33)

1. Removal

- 1) Disengage tabs **A** at four places and remove the gear cover **①**.
- 2) Remove the FL worm wheel **②**.

2. Mounting

- 1) Mount the FL worm wheel **②**.
- 2) Meeting the hole **B** in drive gear with the hole in side plate, mount the FL worm wheel **②** while meeting the hole **C** in FL worm wheel with the hole in side plate.
- 3) Mount the gear cover **①**.

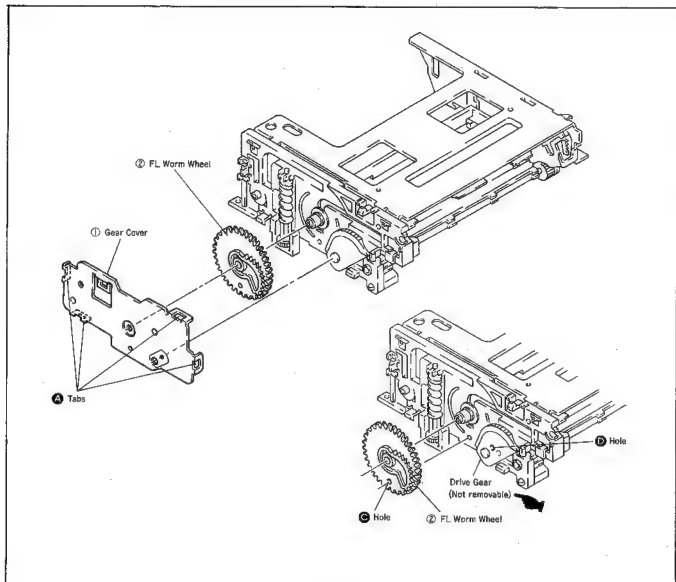
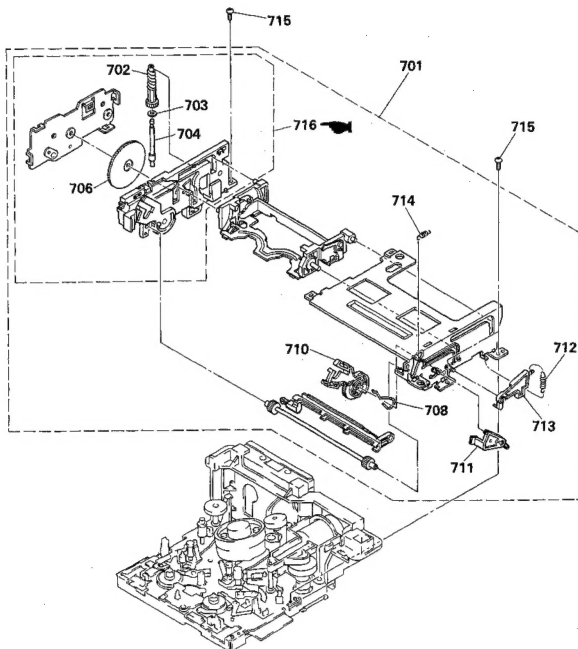


Fig. 33

✖ : Indicates Corrected portion

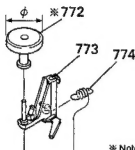
6-1. FRONT LOADING ASSEMBLY (Page 39)



Ref. No.	Part No.	Description	Remark
701	A-7091-941-A	FL BLOCK ASSY	
702	3-954-028-01	GEAR, FL WORM	
703	3-738-212-11	RETAINER, THRUST, REEL TABLE	
✖ 704	3-954-029-01	SHAFT, FL WORM GEAR	
706	3-954-019-01	WHEEL, FL WORM	
708	3-954-042-01	SPRING, PRESS	

Ref. No.	Part No.	Description	Remark
710	3-954-033-01	ARM (T), DRIVING	
✖ 711	3-954-041-01	ARM, DOOR SWITCHING	
712	3-954-043-01	SPRING, TENSION	
✖ 713	3-954-040-01	ARM, CASSETE IN SWITCH	
714	3-954-044-01	SPRING, TENSION	
715	3-732-817-01	SCREW (ZX4.5), TAPPING	
716	A-7091-942-A	PLATE (S), SIDE ASSY	✖

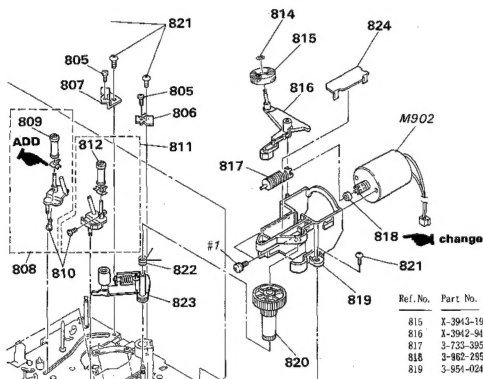
6-2. MD CHASSIS ASSEMBLY (1) (Page 40)



※ Note that there are two kinds of impedance roller: (M) weights whose diameters are as follows.
NTSC model: ϕ 19
PAL model: ϕ 10

Ref.No.	Part No.	Description	Remark
768	3-726-882-02	FLANGE, LOWER, TC2	
769	3-726-885-01	SLEEVE, TC2	
770	3-726-883-31	ROLLER, TC2	
771	3-726-884-01	FLANGE, UPPER, TC2	
772	3-954-282-01	ROLLER (M NTSC), IMPEDANCE	ADD
772	3-952-051-02	ROLLER (M PAL), IMPEDANCE	ADD
773	X-3943-015-1	BASE ASSY, ROLLER	
774	3-954-284-01	SPRING, TENSION	
775	3-954-096-01	SCREW, TC7 HEIGHT ADJUSTMENT	
776	3-954-093-01	SPACER, TC7	
777	X-3942-958-1	ARM ASSY, TC7	
778	3-954-003-01	SPRING (TC7), TORSION	
779	X-3943-161-1	BRAKE (T) ASSY	
780	3-953-978-01	SPRING, TENSION	
781	3-732-817-01	SCREW (2X4.5), TAPPING	
782	3-738-212-11	RETAINER, THRUST, REEL TABLE	
783	3-669-465-00	WASHER (1.5), STOPPER	

6-3. MD CHASSIS ASSEMBLY (2) (Page 41)



Ref.No.	Part No.	Description	Remark
815	X-3943-192-1	ROLLER ASSY, HC	
816	X-3942-947-1	ARM ASSY, HC	
817	3-733-395-01	GEAR (CAM, NORM)	
818	3-962-295-01	RUBBER, JOINT	change
819	3-954-024-01	HOLDER, MOTOR	
820	3-954-023-01	WHEEL, CAM NORM	
821	3-732-817-01	SCREW (2X4.5), TAPPING	
822	3-954-105-01	SPRING (PINCH DRIVING)	
823	X-3942-945-1	ARM ASSY, PINCH	
824	3-958-047-02	MOTOR HOLDER COVER	
825	※	DRUM, UPPER, ROTARY	
M901	※	DRUM ASSY	
M902	X-3942-946-1	MOTOR ASSY, CAM	

8mm Video MECHANICAL ADJUSTMENT MANUAL V

F MECHANISM

video 8

CORRECTION-2

Please correct your 8mm Video MECHANICAL ADJUSTMENT MANUAL V.

Subject : 5-2. TRACKING ADJUSTMENT

(97-005)

Incorrect

5-2. TRACKING ADJUSTMENT (Fig. 37, 38)

- 1) Play back the tracking alignment tape.
- 2) Loosen the No. 3 guide (TG3) lock screw ① and turn the No. 3 guide to flatten the waveform at the inlet.
- 3) Tighten the No. 3 guide (TG3) lock screw ① to lock the No. 3 guide.
- 4) Loosen the No. 6 guide (TG6) lock screw ② and turn the No. 6 guide to flatten the waveform at the outlet.
- 5) Tighten the No. 6 guide (TG6) lock screw ② to lock the No. 6 guide. When this is done, make sure that the waveform does not change at the outlet.

Note : Be careful not to loosen the lock screw too much because the guide is easily moved.

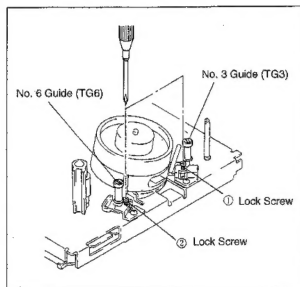


Fig. 37

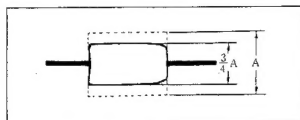


Fig. 38

Correct

5-2. TRACKING ADJUSTMENT (Fig. 37, 38)

- 1) Play back the tracking alignment tape.
- 2) Turn the No. 3 guide to flatten the waveform at the inlet.
- 3) Turn the No. 6 guide to flatten the waveform at the outlet.

Note : Be careful not to touch the lock screw.

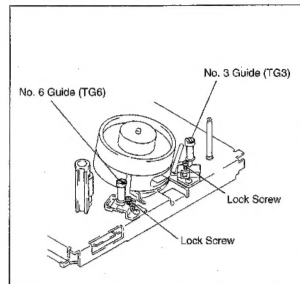


Fig. 37

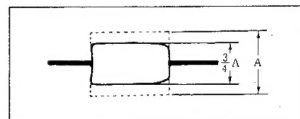


Fig. 38